TOSHIBA

FILE NO. 023-200035

# SERVICE MANUAL

# COLOR TELEVISION

N0NSP Chassis

# 55A10A

*(TAC0056)*

## – SUMMARY –

55A10A is the same as 55A10 except for the parts tabled on back of this sheet.
Use this service manual together with the service manual of 50A10, 55A10
(File No. 023-200024), and original service manual of 50A60, 50A50, 55A60, 61A60
(File No. 020-200012).

PUBLISHED IN JAPAN, Nov., 2000 Ⓢo

# REPLACEMENT PARTS LIST DIFFERENCES

| Location No. | Part No. | Description |
|---|---|---|
| K601 | 23430923 | Mirror, MIRROR55K2 |
| Y101 | 23563971 | Owner's Manual, English, 55A10A |
| Y101F | 23563972 | Owner's Manual, French, 55A10A |

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TOSHIBA

FILE NO. 020-200012

SERVICE MANUAL

# COLOR TELEVISION

N0NSP Chassis

**50A60, 50A50**

*(TAC0050)* *(TAC0051)*

**55A60, 61A60**

*(TAC0052)* *(TAC0053)*

PUBLISHED IN JAPAN, May., 2000 Ⓢ

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# CHAPTER 1 GENERAL ADJUSTMENTS

## SAFETY INSTRUCTIONS

**WARNING**: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" INSTRUCTIONS BELOW.

### X-RAY RADIATION PRECAUTION

1. Excessive high voltage can produce potentially hazardous X-RAY RADIATION. To avoid such hazards, the high voltage must not be above the specified limit. The nominal value of the high voltage of this receiver is (A) kV at zero beam current (minimum brightness) under a 120V AC power source. The high voltage must not, under any circumstances, exceed (B) kV.

   Refer to table-1 for high voltage (A), (B).
   (See SETTING & ADJUSTING DATA on page 17)

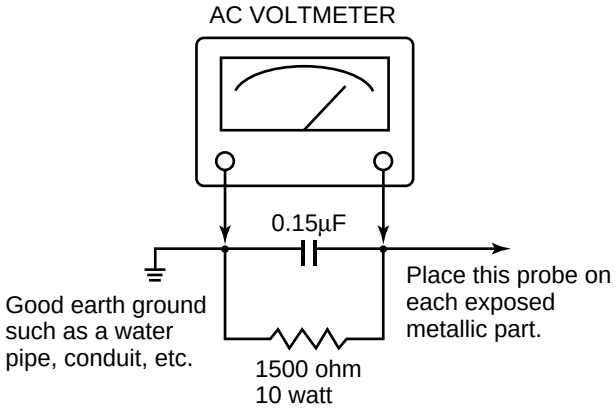
   Each time a receiver requires servicing, the high voltage should be checked following the HIGH VOLTAGE CHECK procedure in this manual. It is recommended that the reading of the high voltage be recorded as a part of the service record. It is important to use an accurate and reliable high voltage meter.
2. This receiver is equipped with a Fail Safe (FS) circuit which prevents the receiver from producing an excessively high voltage even if the B+ voltage increases abnormally. Each time the receiver is serviced, the FS circuit must be checked to determine that the circuit is properly functioning, following the FS CIRCUIT CHECK procedure in this manual.
3. The only source of X-RAY RADIATION in this TV receiver is the picture tube. For continued X-RAY RADIATION protection, the replacement tube must be exactly the same type tube as specified in the parts list.
4. Some part in this receiver have special safety-related characteristics for X-RAY RADIATION protection. For continued safety, parts replacement should be undertaken only after referring to the PRODUCT SAFETY NOTICE below.

### SAFETY PRECAUTION

WARNING : Service should not be attempted by anyone unfamiliar with the necessary precautions on this receiver. The following are the necessary precautions to be observed before servicing this chassis.

1. An isolation Transformer should be connected in the power line between the receiver and the AC line before any service is performed on the receiver.
2. Always discharge the picture tube anode to the CRT conductive coating before handling the picture tube. The picture tube is highly evacuated and if broken, glass fragments will be violently expelled. Use shatter proof goggles and keep picture tube away from the unprotected body while handling.
3. When replacing a chassis in the cabinet, always be certain that all the protective devices are put back in place, such as; non-metallic control knobs, insulating covers, shields, isolation resistor-capacitor network etc.
4. Before returning the set to the customer, always perform an AC leakage current check on the exposed metallic parts of the cabinet, such as antennas, terminals, screwheads, metal overlays, control shafts etc. to be sure the set is safe to operate without danger of electrical shock. Plug the AC line cord directly into a 120V AC outlet (do not use a line isolation transformer during this check). Use an AC voltmeter having 5000 ohms per volt or more sensitivity in the following manner:

   Connect a 1500 ohm 10 watt resistor, paralleled by a 0.15 µF, AC type capacitor, between a known good earth ground (water pipe, conduit, etc.) and the exposed metallic parts, one at a time. Measure the AC voltage across the combination of 1500 ohm resistor and 0.15 µF capacitor. Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metallic part. Voltage measured must not exceed 0.3 volts rms. This corresponds to 0.2 milliamp. AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.

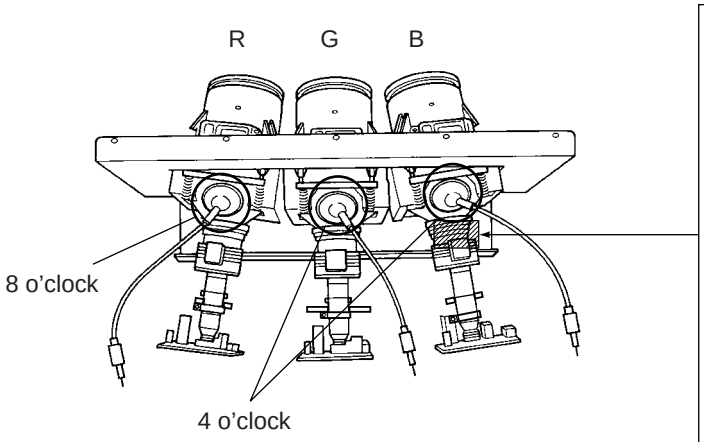

AC VOLTMETER
0.15µF
Good earth ground such as a water pipe, conduit, etc.
Place this probe on each exposed metallic part.
1500 ohm
10 watt

### PRODUCT SAFETY NOTICE

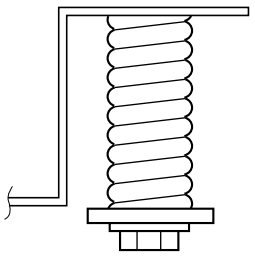
Many electrical and mechanical parts in this chassis have special safety-related characteristics. These characteristics are often passed unnoticed by a visual inspection and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the international hazard symbols on the schematic diagram and the parts list.
Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create shock, fire, X-ray radiation or other hazards.

# CRT ASSEMBLY REPLACEMENT AND MOUNTING

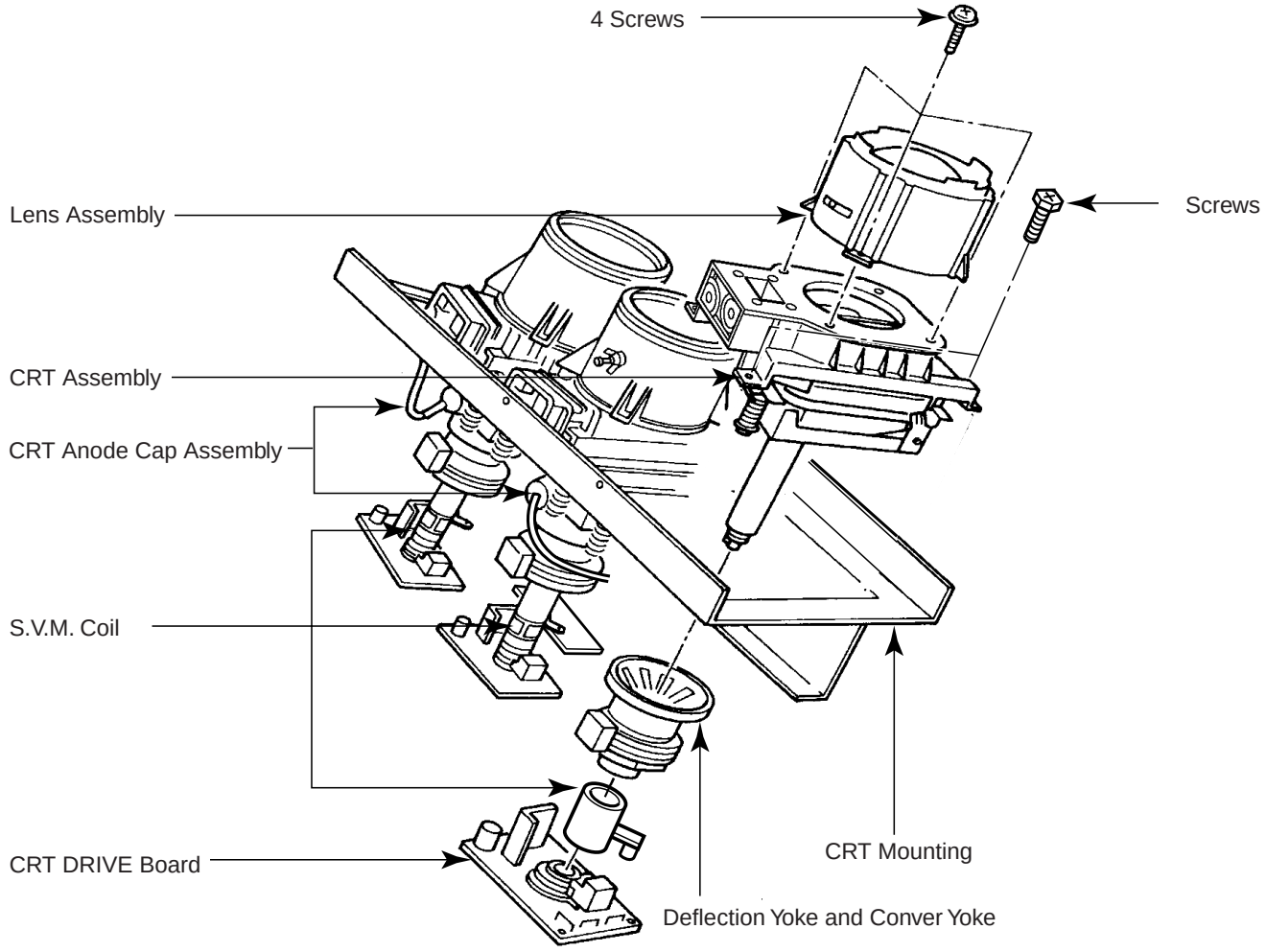
**CAUTION : DO NOT LOOSEN THE HEX HEAD BOLTS WITH SPRINGS (12 PCS), BECAUSE THOSE ARE FOR SEALING OF CRT COOLANT.**




## Attention Serviceman



The Hex Head Bolts with Springs. (see sketch) used on CRT assembly, are "NOT" Adjustment Screws DO NOT LOOSEN-FLUID LEAKAGE WILL OCCUR.




**Lens and Neck Components View**

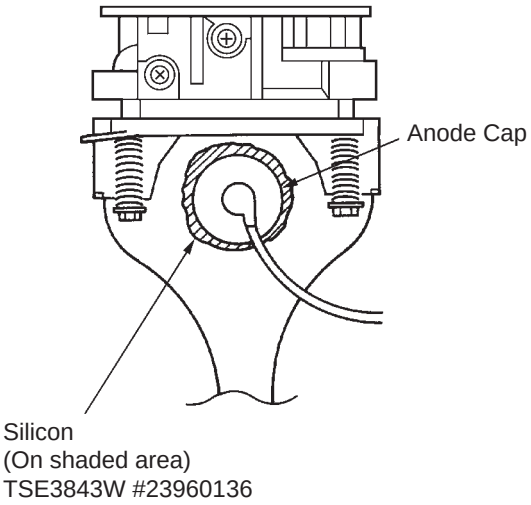
TO REMOVE CRT (Same procedure for R, G, B)

1. Remove CRT DRIVE Board, S. V. M. COIL and DEF. YOKE from CRT.
2. Remove Lens Assembly.
3. Detach CRT Anode Cap from CRT.
4. Remove CRT Assembly from CRT Mounting.

CRT REPLACEMENT (Same procedure for R, G, B)
Reverse the removal procedures except the followings.

1. Anode Cable should be replaced with new one. See “SERVICING PRECAUTIONS” shown below.
2. Install silicon (T461B) to the CRT, replace the Anode cable and put enough silicon again on around the Anode Cap as illustrated.

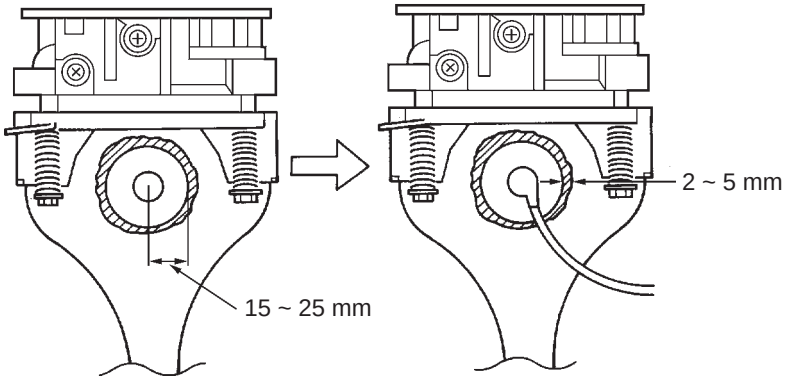
CAUTION: Align the Anode cable as illustrated on page 4.




ADJUSTING PROCEDURE IN REPLACING CRT

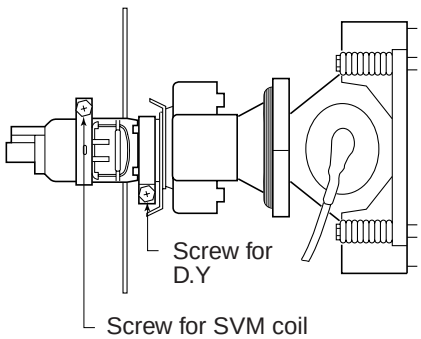
1. R.G.B. FOCUS ADJUSTMENT (page 6.)
2. PICTURE TILT ADJUSTMENT (page 6.)
3. USER CONVERGENCE CENTER CHECK (See owner's manual.)
4. CENTERING ADJUSTMENT (page 6.)
5. CONVERGENCE ADJUSTMENT (page 13.)
6. WHITE BALANCE ADJUSTMENT (page 12.)

Adjustments are complete.



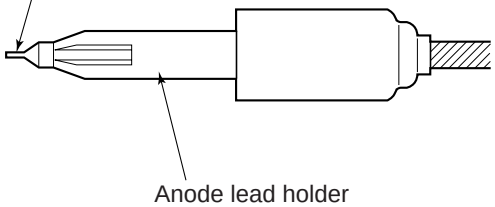

## SERVICING PRECAUTIONS

■ Do not use a magnetized screw driver for screws of Deflection Yoke and Velocity Modulation Coil to avoid magnetization of electron gun. Magnetization of electron gun will degrade basic function and result in unbalance of right and left shift of user static convergence, and result in no variable quantity.




■ When replacing the anode cap assembly (CRT) or anode lead assembly (F.B.T.), remove the anode lead holder from old one and attach the holder again to new anode lead.

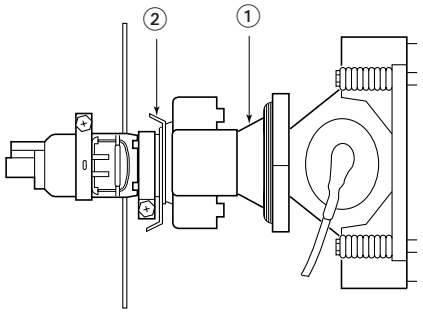
■ Check the point of anode lead in a straight line, if it is winding, please revise it.



**WARNING :** BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 3 OF THIS MANUAL.

# PICTURE TUBE COMPONENTS ADJUSTMENT

### DESCRIPTION OF NECK COMPONENTS




① Deflection yoke and convergence yoke
The position on the neck is required most front (CRT funnel side) and the screw is fastened after rotating yoke adjusting picture tilt.

② Centering magnet
After adjusting picture tilt, picture position is finally fixed by this magnet.
In order to get maximum margin of user convergence control for center of screen, this magnet have to be used for center convergence adjustment.

PREPARATION
Operate the receiver for at least 5 minutes.

### R, G, B FOCUS ADJUSTMENT

1. Before adjusting the R, G, B FOCUS, remove the 4 screws of Lens Assembly which is fixed on the CRT Assembly. (See page 4.)
   Then turn around the Lens Assembly by 180˚ to adjust the fastening screw (Fig. a) and fasten the 4 screws to secure Lens Assembly.
2. Select the adjustment mode. (See page 9.)
3. Press "7" button to display the built-in cross-hatch.
4. Press "0" and "RTN" buttons to make the picture a single Red color.
   100 button ..... to erase Red color
   0 button ..... to erase Green color
   RTN button ..... to erase Blue color
5. Loosen the fasten screw and adjust Red lense focus to best focusing point of picture center. Then fasten the screw. (See Fig. a.)

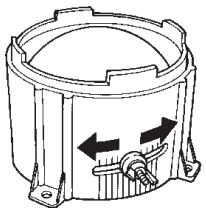


**Fig. a**

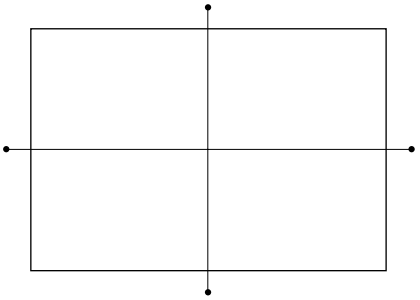
6. Adjust FOCUS VR "R" of FOCUS PACK to find best focusing point of picture center.
7. Repeat steps 3 to 5 for Green and Blue colors.

### TILT ADJUSTMENT

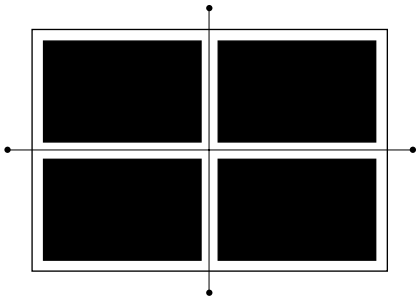
Rotate R, G, B deflection yoke so that picture becomes horizon, then fasten screw.

### CENTERING ADJUSTMENT

1. Stretch a thread between two center slots of screen edge (top and bottom, left and right).

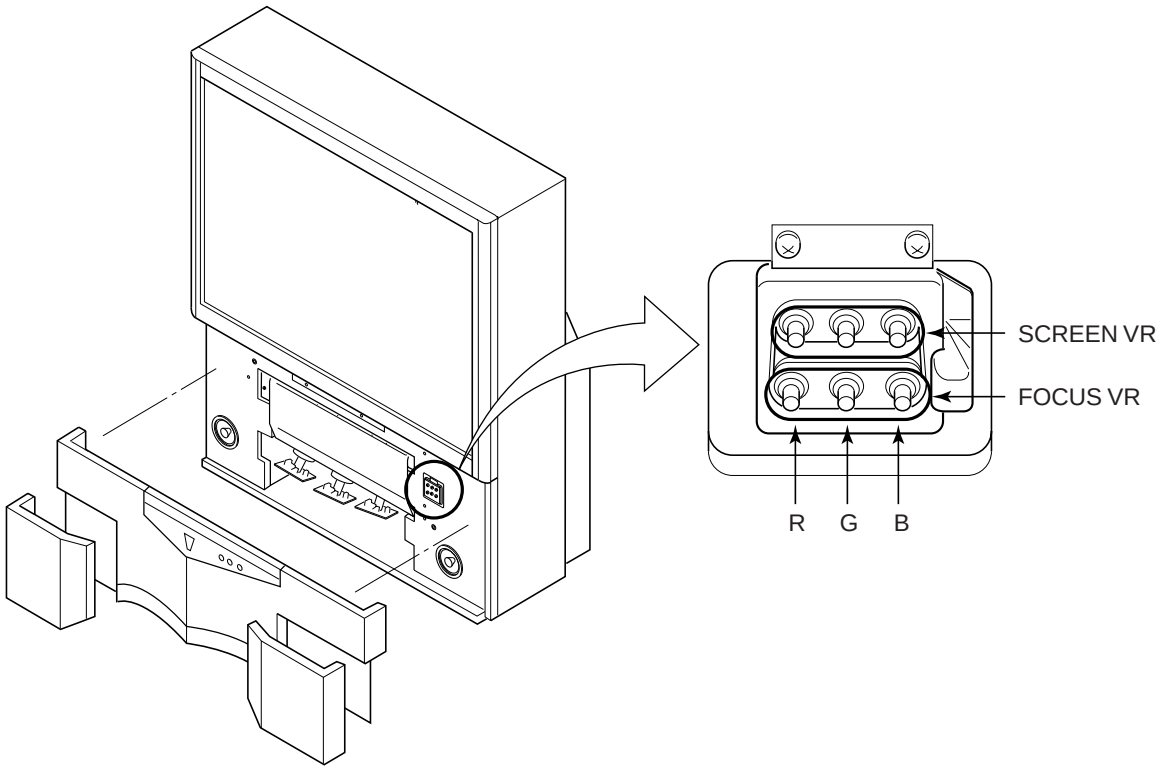


2. Select the adjustment mode.
3. Press TV/VIDEO button on the Remote Control to display the white cross-bar.



4. Perform VCEN adjustment. (See page 11.)
5. Adjust G centering magnet so that the cross-bar pattern center comes to screen center.
6. Perform HEIGHT adjustment . (See page 12.)
7. Perform VERT. LINEARITY adjustment.
8. Perform WIDTH adjustment. (See page 12.)
9. Check whole quality of green line.
10. Adjust R, B centering magnet so that the cross-bar pattern center comes to screen center.

**LOCATION OF SCREEN AND FOCUS VR'S**



# REPLACEMENT OF THE CRT

Service parts are provided for each R, G and B.
The contents of the parts are as follows.

| | | R | G | B |
|---|---|---|---|---|
| HITACHI CRT | 50A50 | 23796001 | 23005397 | 23796003 |
| | 50A60 | 23005114 | 23005115 | ↑ |
| | 55A60 | 23005242 | ↑ | ↑ |
| | 61A60 | 23005249 | ↑ | 23796486 |

**REPLACEMENT OF HIGH VOLTAGE CABLE**

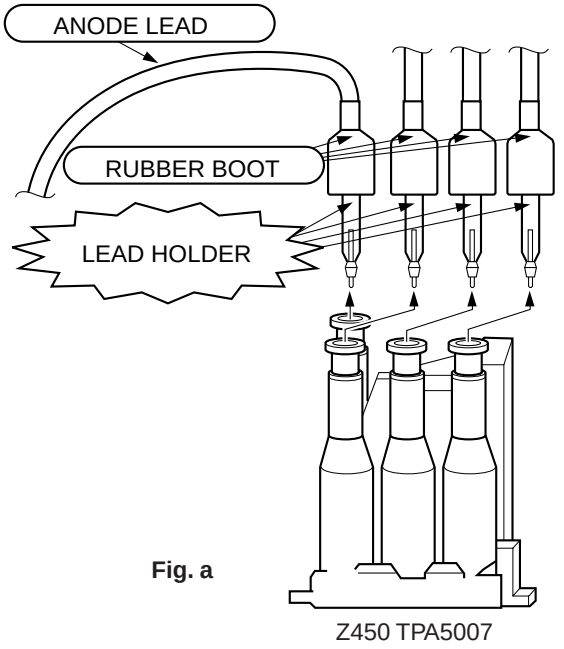



**Fig. a**

1. When replacing Anode Lead or Anode Cap with new one, remove Lead Holder from old lead as shown in figure below, and put it on new lead. Do not throw away Lead Holder.

**NOTE : THE LEAD HOLDER IS ATTACHED TO TPA5007 (Z450), BUT IS NOT ATTACHED TO ANODE LEAD AND ANODE CAP. RUBBER BOOT IS ATTACHED TO ANODE LEAD AND ANODE CAP.**

2. Detaching Lead Holder

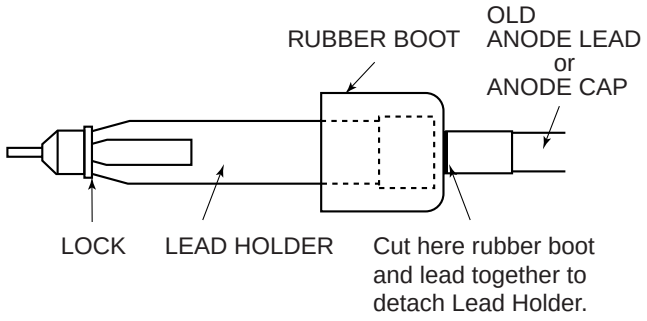



**Fig. b**

# SERVICE MODE

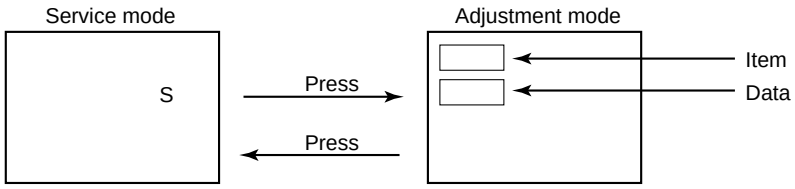
## 1. ENTERING TO SERVICE MODE

1) Press MUTE button once on Remote Control.
2) Press MUTE button again to keep pressing.
3) While pressing the MUTE button, press MENU button on TV set.

(Service mode display)

## 2. DISPLAYING THE ADJUSTMENT MENU

1) Press MENU button on TV.




## 3. KEY FUNCTION IN THE SERVICE MODE

The following key entry during display of adjustment menu provides special functions.

| | |
|---|---|
| Screen adjustment mode ON/OFF: | TV (ANT)/VIDEO button (on TV) |
| Selection of the adjustment items : | Channel ▲/▼ (on TV or Remote) |
| Change of the data value : | Volume ▲/▼ (on TV or Remote) |
| Adjustment menu mode ON/OFF : | MENU button (on TV) |
| Initialization of the memory (QA02) : | RECALL+Channel button on TV (▲) |
| Initialization of the self diagnostic data: | RECALL+Channel button on TV (▼) |

| | |
|---|---|
| “RCUT” selection : | 1 button |
| “GCUT” selection : | 2 button |
| “BCUT” selection : | 3 button |
| “SCNT” selection : | 4 button |
| “SCOL” selection : | 5 button |
| “TNTC” selection : | 6 button |
| Convergence adj : | 7 button |
| Test audio signal ON/OFF (1kHz) : | 8 button |
| Self diagnostic display : | 9 button |

**4. SELECTING THE ADJUSTING ITEMS**

1) Every pressing of CHANNEL ▲ button in the service mode changes the adjustment items in the order of table-2. (▼ button for reverse order)

Refer to table-2 for preset data of adjustment mode.
(See SETTING & ADJUSTING DATA on page 17)

**5. ADJUSTING THE DATA**

1) Pressing of VOLUME ▲ or ▼ button will cahnge the value of data in the range from 00H to FFH. The variable range depends on the adjusting item.

**6. EXIT FROM SERVICE MODE**

1) Pressing POWER button to turn off the TV once.

**■ INITIALIZATION OF MEMORY DATA OF QA02**

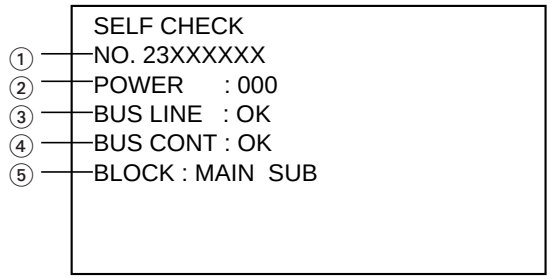
After replacing QA02, the following initialization is required.

1. Enter the service mode, then select any register item.
2. Press and hold the RECALL button on the Remote, then press the CHANNEL ▲ button on the TV. The initialization of QA02 has been complated.
3. Check the picture carefully. If necessary, adjust any adjustment item above. Perform “Programming Channel Memory” on the owner's manual.

CAUTION: Never attempt to initialize the data unless QA02 has been replaced.

**7. SELF DIAGNOSTIC FUNCTION**

1) Press “9” button on Remote Control during display of adjustment menu in the service mode. The diagnosis will begin to check if interface among IC’s are executed properly.
2) During diagnosis, the following displays are shown.

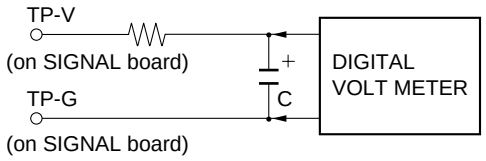
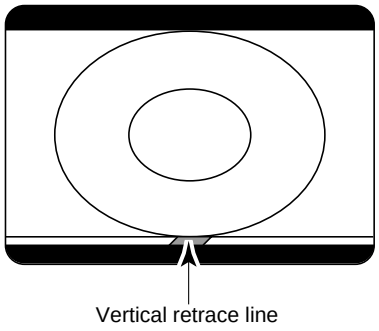
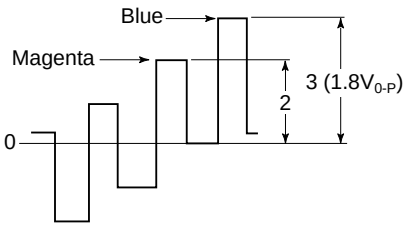
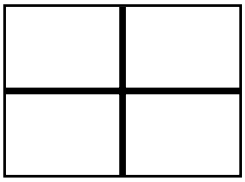


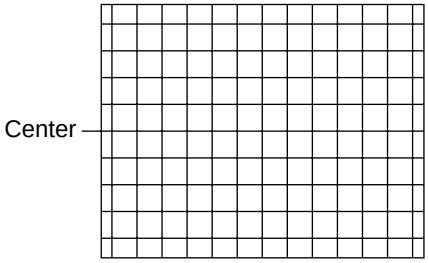

① Part number of microprocessor (QA01)
② Operation number of protection circuit (current limiter) . . . . “000” is normal.
③ BUS line check
- “OK” ..... Normal
- “SCL-GND” or “NG” ..... SCL-GND short circuit
- “SDA-GND” or “NG” ..... SDA-GND short circuit
- “SCL-SDA” or “NG” ..... SCL-SDA short circuit

④ BUS line ACK (acknowledge) check
- “OK” ..... Normal
- Display of Location Number . . . . NG
- (Display example)
- “QA02 NG”, “H001 NG”, “Q501 NG” etc.
- Note: The indication of failure place is only one place though failure places are plural. When repair of a failure place finishes, the next failure place is indicated. (The order of priority of indication is left side.)

⑤ Sync. signal check
- Green display ..... Normal
- Red display ..... NG
  - MAIN ..... Main sync
  - SUB ..... Sub sync (when turn on the PIP)

# ELECTRICAL ADJUSTMENT

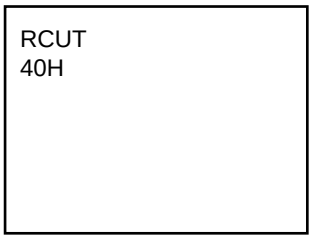
| ITEM | ADJUSTMENT PROCEDURE |
|---|---|
| VERTICAL POSITION (VCEN) | 1. Call up the adjustment mode display, then select item VCEN.<br>2. Press the VOLUME ▲ or ▼ button to get the voltage +30 ±10 mV.<br>3. Measuring method of voltage as follows.<br>  |
| SUB-BRIGHTNESS<br>(BRTC) | 1. Constrict the picture height until the vertical retrace line appears adjusting the HEIGHT control on the MAIN board.<br>2. Adjust the CONTRAST to the minimum and BRIGHTNESS to the center.<br>3. Enter the service mode, then select "**BRTC**" register.<br>4. Adjust the data value so the belt of vertical retrace line just disappear.<br>5. Adjust the HEIGHT control.<br>* Adjust the SUB-BRIGHTENESS after adjusting the WHITE BALANCE.<br>  |
| SUB-COLOR<br>(SCOL)<br>SUB-TINT<br>(TNTC) | 1. Receive color-bar signal from color-bar generator.<br>2. Adjust the BRIGHTNESS and CONTRAST to the center (RESET status).<br>3. Connect oscilloscope to TP501on the MAIN board.<br>4. Enter the service mode, then select "**SCOL**".<br>5. Temporarily adjust the data value to achieve about $1V_{0\text{-}p}$ of blue bar.<br>6. Select "**TNTC**" register.<br>7. Adjust the data value to obtain the blue bar to magenta bar ratio of 3:2 as shown.<br>8. Select "**SCOL**" register.<br>9. Adjust the data value to achieve $1.8V_{0\text{-}p}$ of blue bar on scope.<br>10. Check the picture with off-air signal.<br>  |
| SUB-CONTRAST<br>(SCNT) | 1. Tune in a color program and adjust the BRIGHTNESS and CONTRAST to normal mode(RESET).<br>2. Enter the service mode, then select "SCNT" register.<br>3. Change "SCNT" data to13H.<br>4. Check the picture contrast. |
| PICTURE POSITION | 1. Receive the pattern signal which shows it's center on the screen.<br>2. Adjust the picture position alternately by turning CENTERING MAGNETS for proper picture position.<br>3. Check the picture with off-air signal.<br>  |

| ITEM | ADJUSTMENT PROCEDURE |
|---|---|
| HEIGHT<br>(HIT) | 1. Call up the adjustment mode display, then select the item HIT.<br>2. Press the VOLUME ▲ or ▼ button to get the picture so the top of raster begins to lack.<br>3. Press the VOLUME ▲ button to advance the data by 10 steps.<br>Note : Check the vertical picture position is correct. |
| WIDTH<br>(WID) | 1. Call up the adjustment mode display, then select the item **WID**.<br>2. Press the VOLUME ▲ or ▼ button to get the picture so the left and right edges of raster begins to lack.<br>3. Press the VOLUME ▲ or ▼ button to advance the data by 10 steps.<br>Note : Check the horizontal picture position is correct. |
| VERTICAL LINEARITY<br>(VLIN) | 1. Call up the adjustment mode display, then select the item **VLIN**.<br>2. Receive cross-hatch pattern signal.<br>3. Press the VOLUME ▲ or ▼ button to obtain the picture of the best linearity.<br>4. Then readjust the item HIT.<br>  <br> |
| WHITE BALANCE<br>(RCUT)<br>(GCUT)<br>(BCUT)<br>(RDRV)<br>(BDRV) | 1. Press RESET button on TV or remote hand set.<br>2. Call up the adjustment mode display, then adjust the data of items **RCUT**, **GCUT** and **BCUT** to “40”.<br>3. Press TV (ANT)/VIDEO button on TV.<br>4. Gradually rotate R, G and B SCREEN volume of FOCUS PAC (page 7) clockwise or counterclockwise until the raster appears slightly on the CRT through the each lens, and leave them.<br>(Look into the lens in order to check the raster.)<br>5. Press TV (ANT)/VIDEO button on TV again.<br>6. Exit from service mode.<br>7. Receive white laster pattern signal, and adjust the contrast to the minimum to make white picture to low light.<br>8. Adjust the data of items **RCUT**, **GCUT** and **BCUT** for low light area.<br>9. Adjust the contrast to the maximum to make white picture to high light.<br>10. Adjust the data of items **GDRV** and **BDRV** Controls for proper white-balanced picture in high light area.<br>11. Check the white balance in both low and high light areas. If necessary, perform again steps from 7 to 9.<br>* The data of item GDRV changes red drive actually. |

# CONVERGENCE ADJUSTMENT

Adjust convergence from center to circumference in order.

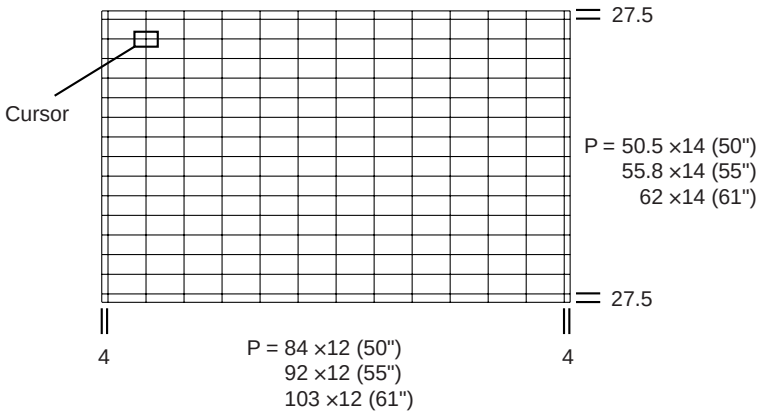
1. Select the adjustment mode following the steps on page 9.




KEY FUNCTION IN THE CONVERGENCE ADJUSTMENT:

| | |
|---|---|
| Up : | 2 button |
| Selet Green color: | 3 button |
| Left : | 4 button |
| Blinking of cursor ON/OFF: | 5 button |
| Right: | 6 button |
| Adjust mode ON/OFF: | 7 button |
| Down: | 8 button |
| Erase Green line: | 0 button |
| Erase Red line: | 100 button |
| Erase Blue line: | CHRTN (ENT) button |

2. Press “7” button to display the built-in cross-hatch pattern.




**Note:**
Adjusting procedure in replacing convergence board.

1. User convergence center check. Make sure the best convergence setting is about the center of adjustable range.
2. CENTERING ADJUSTMENT
3. PICTURE POSITION ADJUSTMENT
4. HIT, WID ADJUSTMENT
5. CONVERGENCE ADJUSTMENT

The pattern includes three colors (R, G, B).
The cursor should be blinking in Red.
This means that the Red color is adjustable.
Adjustment around cursor can be done.

3. Press “3” button to select Green color to be adjusted.
4. Press “5” button to stop the blinking of cursor.
5. Press “2 (up)”, “8 (down)”, “4 (left)” or “6 (right)” to obtain the correct cross-hatch pattern as above.
   If necessary, the specified color line can be erased from the screen.
   100 button ..... to erase Red line
   0 button ..... to erase Green line
   RTN (ENT) button ..... to erase Blue line
6. Press “5” button to make the cursor blinking.
7. Press “2”, “8”, “4”, “6” buttons to move the cursor to other point to be adjusted.
8. Repeat steps 4 to 7.
9. Repeat steps 3 to 8 to adjust Red and Blue colors.
   Converge the selected color line into the Green line.
10. Press “7” button to enter the adjusted states.
    At this time, picture changes for about 1 second.
11. Press “7” button again to return to the normal picture.

**NOTES**

In many cases, color misconvergence may be corrected by returning HIT and WID data in main deflection side to initial adjusting values. Following cases will surely require readjustment of convergence.

**CRT REPLACEMENT**

When CRT is replaced, main deflection readjustment and color matching are required.
Perform following procedures.

1. Replace two CRT's of blue and red.
2. Perform horizontal adjustment for blue and red yokes on base of green CRT data. Mount yoke and velocity mod. coil alignment, pushing towards CRT without gap.
3. Adjust alignment of blue and red. (Refer Alignment adjustment for details.)
4. Rotating centering magnet, adjust CRT centers of red and blue to CRT center of green.
   (Picture position adjustment)
5. Adjust HIT and WID data of main deflection, and decide data at the most precise screen comparing to green data.
6. Adjust convergence of each screen picture for color matching. Do not move green one at this time.
7. After convergence adjustment of each screen picture finishes, replace green CRT.
   For green CRT as well, repeat steps 2 to 5 above on bases of red and blue color matching to adjust convergence.

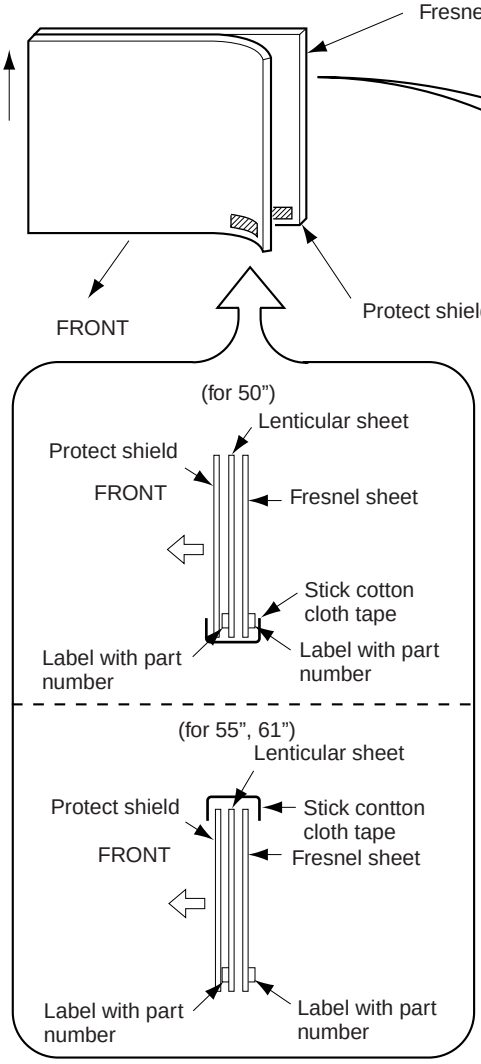
**REPLACING CONVERGENCE UNIT**

When replacing convergence unit, all picture screens require readjustment basically, but the following method allows process be reduced considerably.

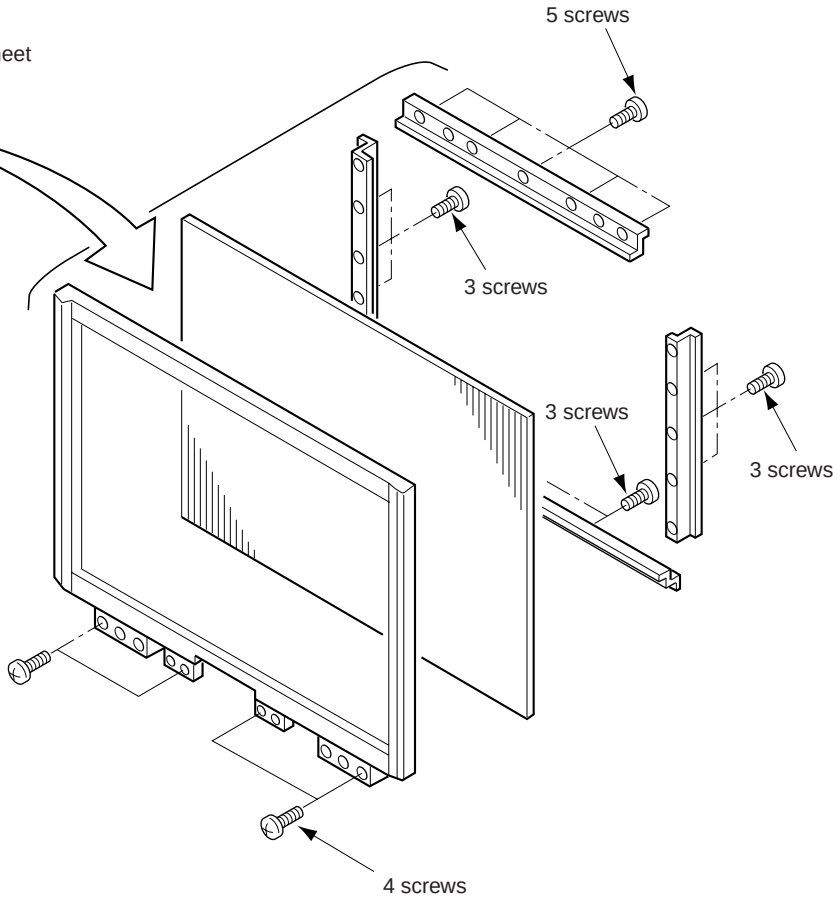
1. Replace the memory (Q713) on defective unit with memory on new unit. Mounting the unit on the SET after the above working realizes picture screen before replacement immediately.
2. Mount unit which has combination of old and new memories, on SET and turn it on. Screen shows whole picture looks like straightly shifted towards vertical or horizontal direction.
3. Adjust again centers of green, red and blue with centering magnets.
4. Check each picture screen for slight disparity of color and picture size. If necessary, add some adjustments of main deflection and color matching of convergence.

# SCREEN AND MIRROR ALIGNMENTS

**ASSEMBLING OF FRONT SCREEN**




**MOUNTING OF FRONT SCREEN**




* Please refer to Mechanical Disassembly on page 23.

**CAUTION :** Do not hold the optical system parts (lens and mirror) with bare hand to avoid finger-prints on the surface of those parts.

**HOW TO CLEAN LENS AND MIRROR**

1. Be sure to remove sand dust with an air brush, etc.
2. When it is stained slightly, breathe upon it and wipe away with the specified cleaning cloth.
   For other stains than the above, wipe the stains away with the specified cloth into which a cleaning liquid has been soaked.

Cleaning liquid..... **LENS LUSTER** (Manufactured by Edmund Scientific Co.), etc.

**HOW TO CLEAN SCREEN**

When cleaning the screen, use a soft cloth so as not to damage the screen.

1. Wipe the screen with a dry cloth to remove moisture on the screen.

**Note :** Absolutely do not use detergent, water, alcohol, benzine, thinner, etc. for cleaning in order not to wipe away the black print on the surface.

# CIRCUIT CHECKS

## HIGH VOLTAGE CHECK

**CAUTION:** There is no HIGH VOLTAGE ADJUSTMENT on this chassis. Checking should be done following the steps below.

1. Connect an accurate high voltage meter to the anode of the picture tube.
2. Turn on the receiver. Set the BRIGHTNESS and CONTRAST to minimum (zero beam current).
3. High voltage must be measured below (B) kV.
   Refer to table-1 for high voltage (B).
   (See SETTING & ADJUSTING DATA on page 17)
4. Vary the BRIGHTNESS to both extremes to be sure the high voltage does not exceed the limit under any conditions.

**CAUTION:**
When the following parts fail, check the High Voltage after replacing.

| Location No. | Name | Name |
|---|---|---|
| T461 | Flyback Trans. | TFB3078ZD |
| C447 | Capacitor | 3900pF, ±3% |
| C406 | Capacitor | 1500pF, ±3% |
| C407 | Capacitor | 4700pF, ±3% |

## ANODE VOLTAGE MEASURING METHOD

CAUTION: Take extra precaution when measuring this high voltage. High voltages are also present in surrounding circuit boards (CRT DRIVE assembly, DEFLECTION assembly, and POWER SUPPLY assembly).

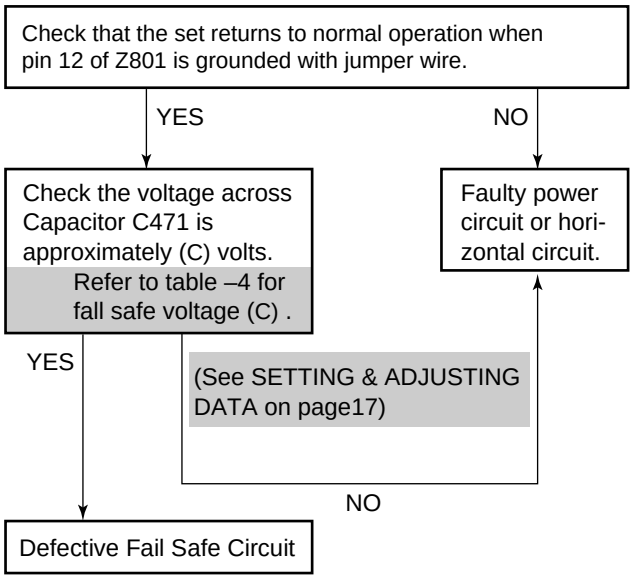
1. Disconnect the FBT anode cable as outlined below. Measure high voltage at the point where the cable enters the FBT.
2. Holding the rubber cover firmly, turn it counterclockwise and check that the lock has been disengaged. (See Fig. b on page 8.)
3. Determine the extent of the rubber cover before disconnecting the cable.
4. Pull straight up the anode cable to disconnect.
5. When reconnecting the cable, proceed in the reverse order. After reconnecting, tug on the cable to check that it is secure.

## FS CIRCUIT CHECK

The Fail Safe (FS) circuit check is indispensable for the final check in servicing. Checking should be done following the steps below.

1. Turn the receiver on.
2. Temporarily short TP- (R) and TP- (X) on the DEF/POWER Board with a jumper wire.
   Raster and sound will disappear.
3. The receiver must remain in this state even after removing the jumper wire. This is the evidence that the FS circuit is functioning properly.
4. To obtain a picture again, temporarily turn the receiver off and allow the FS circuit more than 5 seconds to reset. Then turn the receiver on to produce a normal picture.

**Troubleshooting Guide for Fail Safe Circuit**


Check that the set returns to normal operation when pin 12 of Z801 is grounded with jumper wire.
YES
NO
Check the voltage across Capacitor C471 is approximately (C) volts.
Refer to table –4 for fall safe voltage (C) .
Faulty power circuit or horizontal circuit.
YES
(See SETTING & ADJUSTING DATA on page17)
NO
Defective Fail Safe Circuit

# CHAPTER 2 SPECIFIC INFORMATIONS

## SETTING & ADJUSTING DATA

### 【SAFETY INSTRUCTIONS】

| | | 43", 50", 55", 61" |
|---|---|---|
| HIGH VOLTAGE AT ZERO BEAM: | (A) | 31.3 kV |
| MAX HIGH VOLTAGE: | (B) | 32.4 kV |

**Table-1**

### 【SERVICE MODE】

**ADJUSTING ITEMS AND DATA IN THE SERVICE MODE:**

| Item | Name of adjustment | Preset | Date |
|---|---|---|---|
| RCUT | R CUTOFF | 40H | ← |
| GCUT | G CUTOFF | 40H | ← |
| BCUT | B CUTOFF | 40H | ← |
| GDRV | G DRIVE | 40H | ← |
| BDRV | B DRIVE | 40H | ← |
| CNTX | SUB CONT MAX | 7FH | ← |
| BRTC | SUB-BRIGHT | 80H | ← |
| COLC | SUB-COLOR | 50H | ← |
| TNTC | SUB-TINT | 44H | ← |
| SCOL | SUB COLOR | 05H | ← |
| SCNT | SUB-CONTRAST | 10H | ← |
| HPOS | HORIZ. POSITION | 19H | ← |
| VPOS | VERT. POSITION | 00H | ← |
| HIT | HEIGHT | 64H | ← |
| LIN | V-LINEARITY | 12H | ← |
| VSC | V-S CORRECTION | 10H | ← |
| WID | PICTURE WIDTH | 28H | 23H |
| VPS | V-SHIFT | 18H | ← |

| Item | Name of adjustment | Preset | Date |
|---|---|---|---|
| VCP | V-COMPENSATE | 0AH | ← |
| PARA | E-W PARABOLA (DPC) | 29H | ← |
| CNR | E-W CORNER | 08H | ← |
| TRAP | TRAPEZIUM | 10H | ← |
| HCP | H-COMPENSATE | 00H | ← |
| VFC | V-F CORRECT | 00H | ← |
| PHUE | PIP TINT | 00H | ← |
| PCNT | PIP CONT | 00H | ← |
| PCOL | PIP COLOR | 0FH | ← |
| RGBB | RGB BRIGHT | 54H | ← |
| PROF | PIP R OFFSET | 00H | ← |
| PBOF | PIP B OFFSET | 00H | ← |
| PGOF | PIP YG OFFSET | 00H | ← |
| STRH | START H | 67H | ← |
| STRP | START PTN | 8AH | ← |
| VLD | VLD | 41H | ← |
| VCEN | V POSITION | 81H | ← |
| TVOP | TV OPTION | 00H | ← |

**Table-2**

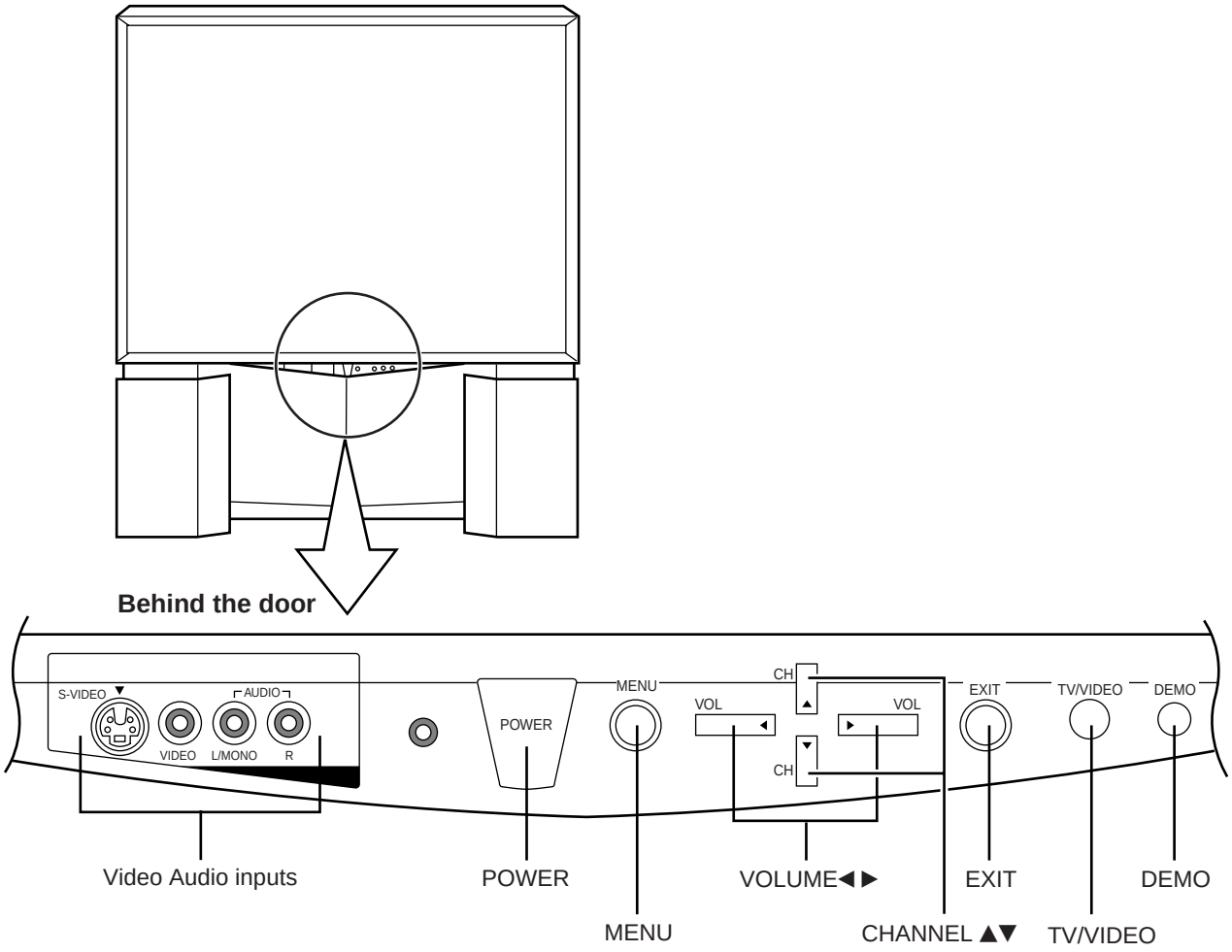
### 【CIRCUIT CHECKS】

| | | |
|---|---|---|
| FBT DETECTION VOLTAGE | (C) | 24.5V |

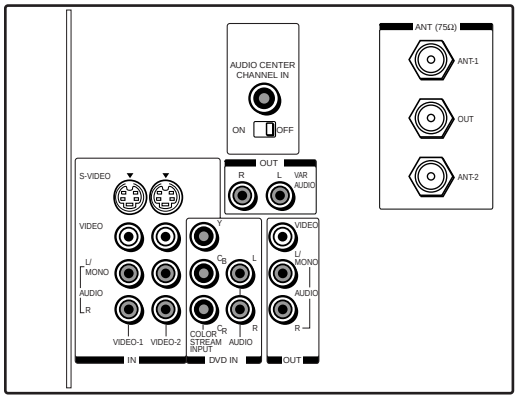
**Table-3**

# LOCATION OF CONTROLS (Representative : 50A60)

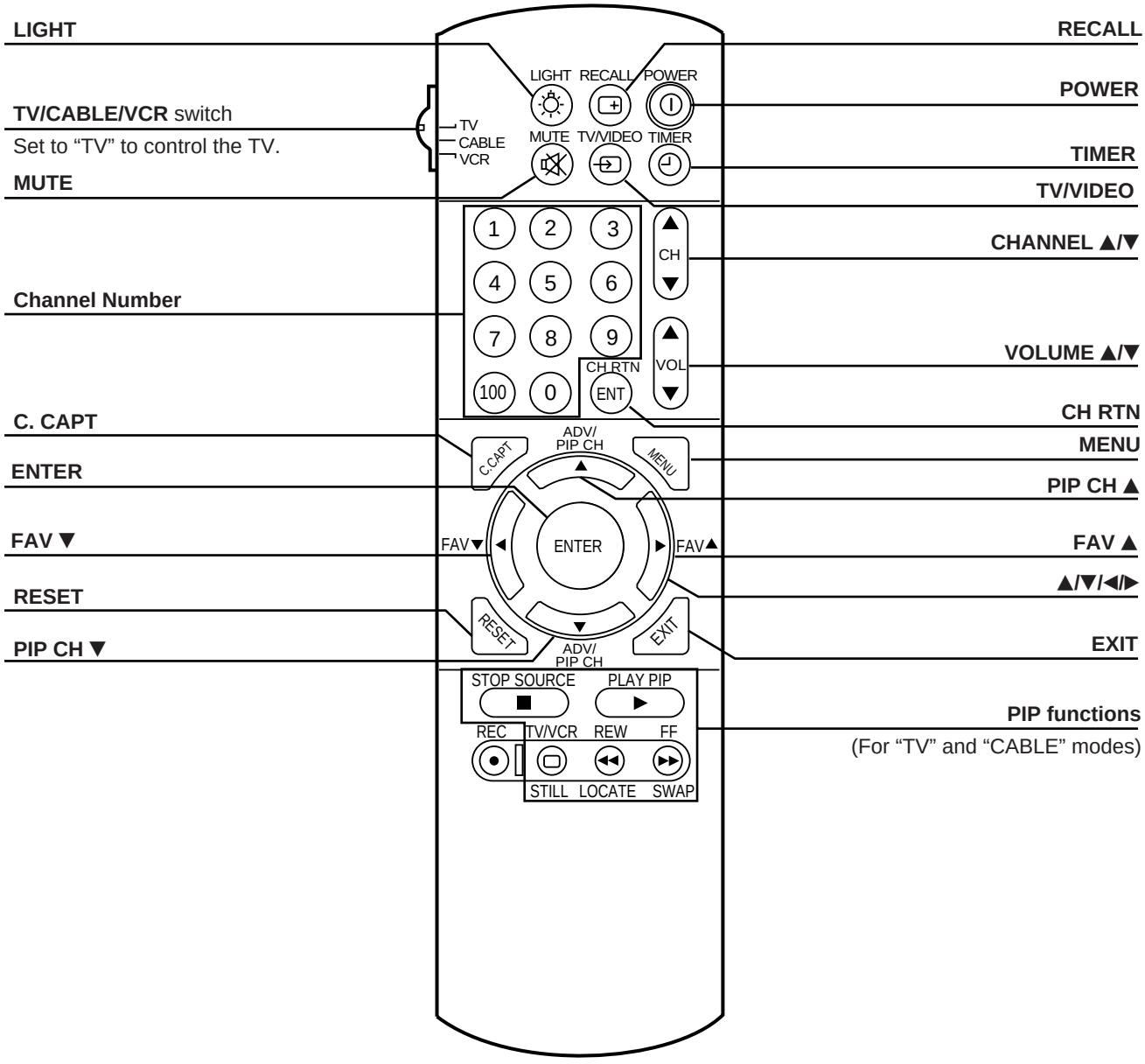
## TV front




## TV rear



## Remote Control



# PROGRAMMING CHANNEL MEMORY

The channel memory is the list of TV channel numbers the TV tunes in when you press the CHANNEL ▲ or ▼ button.
**First, use the TV/CABLE and CH PROGRAM functions to preset all active channels in your area automatically.**
If necessary, arrange the preset channels with the ADD/ERASE functions so that you can tune into only desired channels.
**Note:** If you utilize both ANT-1 and ANT-2 terminals for some model, perform programming channels for each input source.



## TV/CABLE function

1. Press **MENU**, then press ► or ◄ until the SET UP menu appears.
2. Press ▼ (or ▲) until “TV/CABLE” is highlighted.
3. Press ► or ◄ to highlight either “TV” or “CABLE”, whichever you use.

## CH PROGRAM function

1. Select “CH PROGRAM” following steps 1 and 2 above.
2. Press ► or ◄ to start channel programming.
   The TV will automatically cycle through all the TV or CABLE channels selected by the TV/CABLE function, and store active channels in the channel memory.
3. When channel programming is complete, you will see the message to the right appears.
4. Press **CHANNEL** ▲ or ▼ to make sure the channel programming has been done properly.

## ADD/ERASE function

After performing the CH PROGRAM function, you can add or erase specific channels.

1. Select the channel you want to erase using the **CHANNEL** ▲ or ▼ button, or select the channel you want to add using the **Channel Number** buttons.
2. Press **MENU**, then press ► or ◄ until the SET UP menu appears.
3. Press ▼ (or ▲) until “ADD/ERASE” is highlighted.
4. Press ► or ◄ :
   **To erase the channel** press the button until “ERASE” is highlighted.

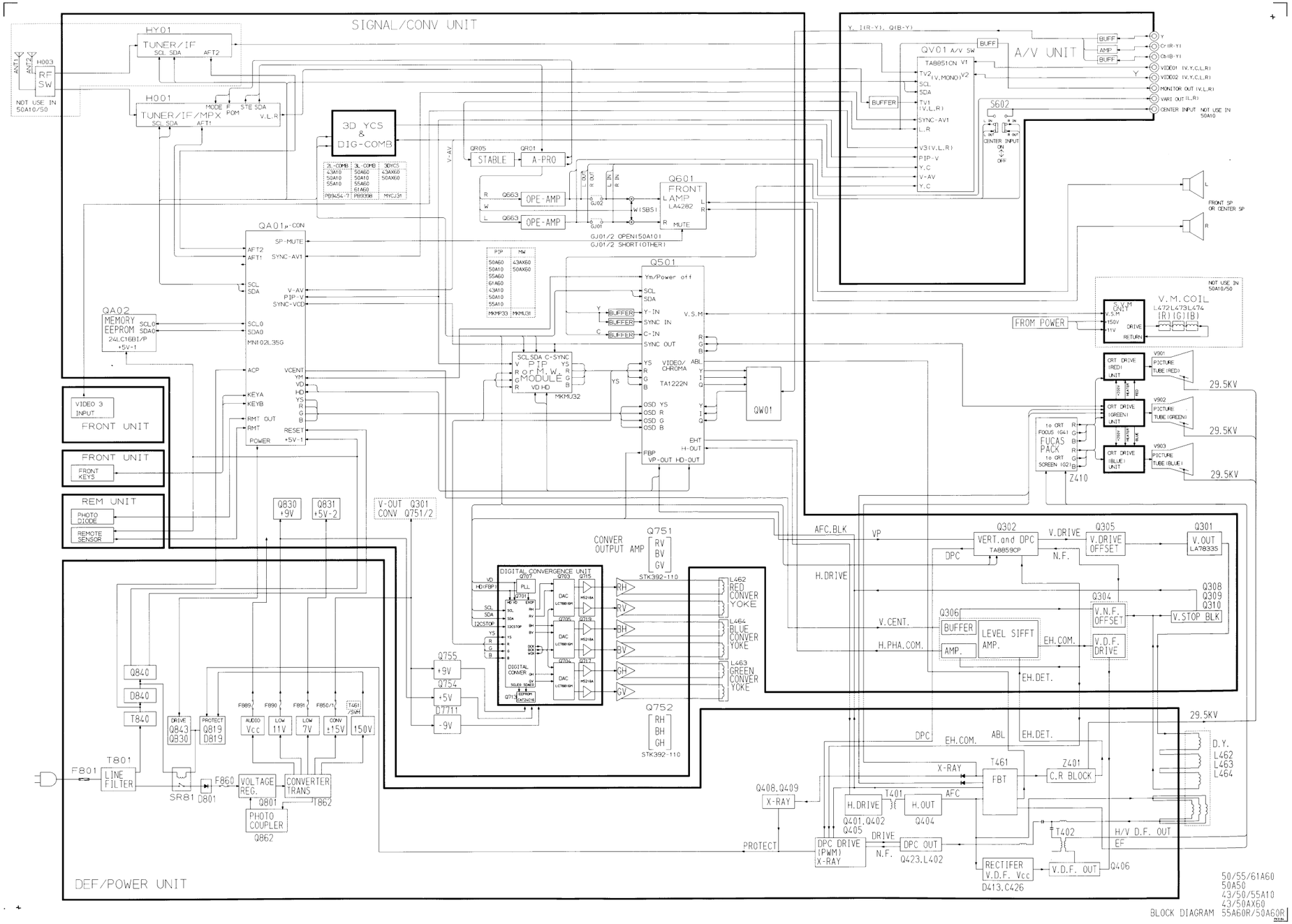
   **To add the channel** press the button until “ADD” is highlighted.
5. Repeat steps 1 to 4 for other channels.

You have now completed the channel programming.

**Note:** The CHANNEL ▼/▲ buttons on the TV function as the ▼/▲ buttons while a menu is on the screen.

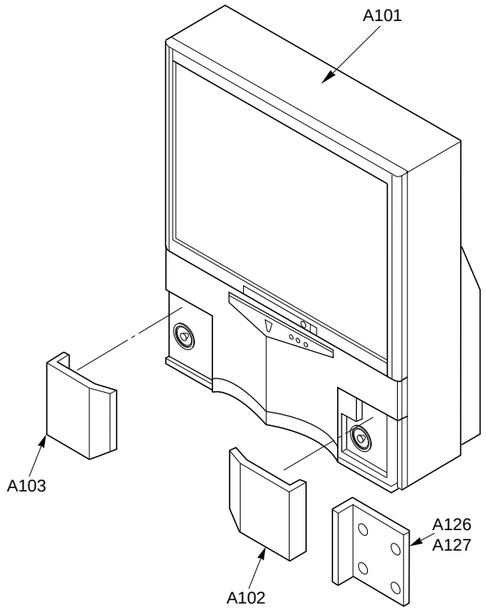
* Please refer to owner's manual in detail.

# CIRCUIT BLOCK DIAGRAM

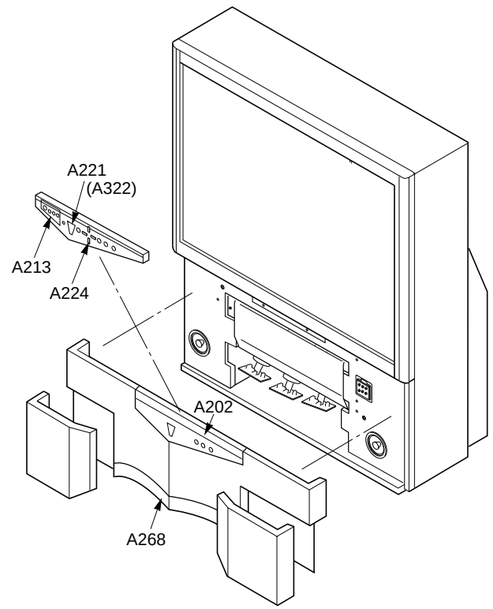


# MECHANICAL DISASSEMBLY

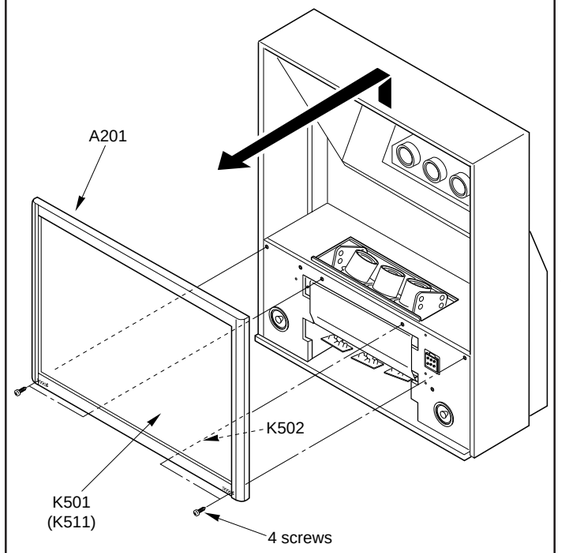
**1 Speaker Grille Removal**



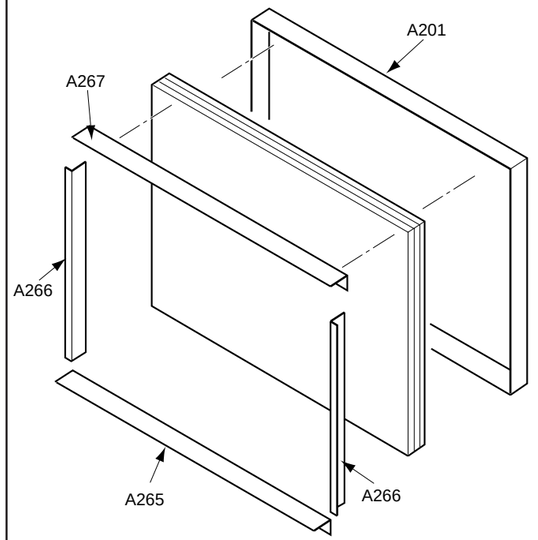

**2 Control Panel Removal**



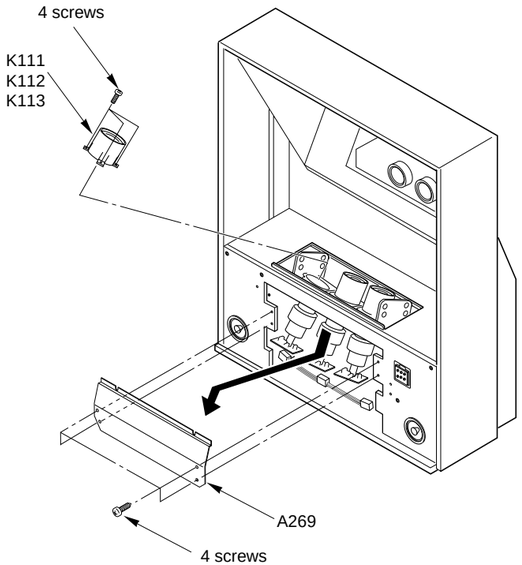

**3 Front Mask Removal**



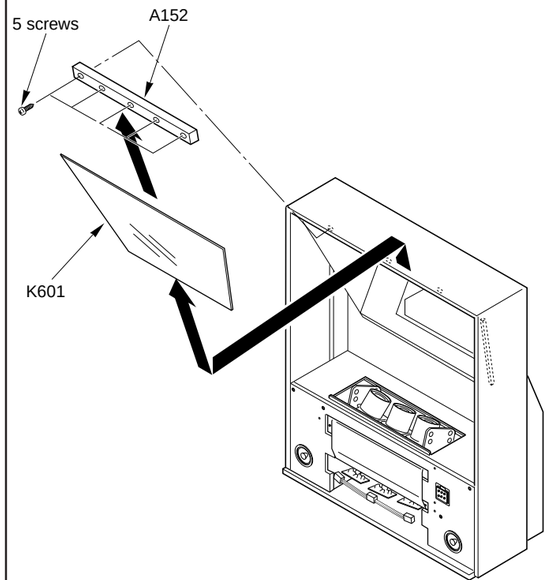

**4 Mask Removal**



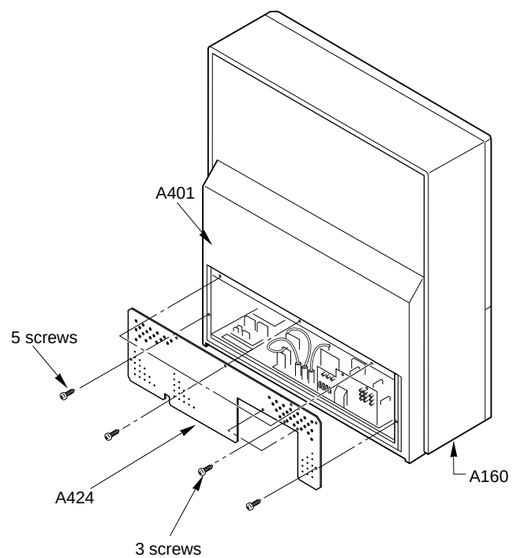

**5 Shield Plate, Lens Removal**



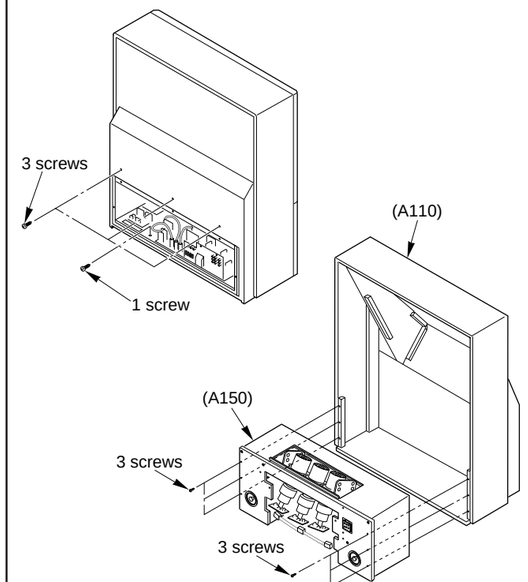

**6 Mirror Removal**




**7 Back Board Removal**




**8 Light Box Removal**



# CHASSIS REPLACEMENT PARTS LIST

**WARNING**: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 3 OF THIS MANUAL.

**CAUTION**: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE. Do not degrade the safety of the receiver through improper servicing.

*NOTICE:*
- *The part number must be used when ordering parts, in order to assist in processing, be sure to include the Model number and Description.*
- *The PC board assembly with ∗ mark is no longer available after the end of the production.*

**Models : 50A60/50A50/55A60/61A60**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Capacitors ..... | CD | : | Ceramic Disk | PF | : | Plastic Film | EL | : Electrolytic |
| Resistors ..... | CF | : | Carbon Film | CC | : | Carbon Composition | MF | : Metal Film |
| | OMF | : | Oxide Metal Film | VR | : | Variable Resistor | FR | : Fusible Resistor |

(All CD and PF capacitors are ±5%, 50V and all resistors, ±5%, 1/6W unless otherwise noted.)

| Location No. | Part No. | Description |
|---|---|---|
| **CAPACITORS** | | |
| C102 | 24665221 | EL, 220μF, ±20%, 10V |
| C105 | 24815102 | Chip, 0.001μF, ±10% |
| C106 | 24669479 | EL, 4.7μF, ±20%, 50V |
| C107 | 24666221 | EL, 220μF, ±20%, 16V |
| C112 | 24665221 | EL, 220μF, ±20%, 10V (50A60/55A60/61A60) |
| C115 | 24815102 | Chip, 0.001μF, ±10% (50A60/55A60/61A60) |
| C117 | 24666221 | EL, 220μF, ±20%, 16V (50A60/55A60/61A60) |
| C151 | 24815102 | Chip, 0.001μF, ±10% (50A60/55A60/61A60) |
| C201 | 24666100 | EL, 10μF, ±20%, 16V |
| C203 | 24092178 | Chip, 0.1μF, ±10%, 25V |
| C204 | 24669010 | EL, 1μF, ±20%, 50V |
| C205 | 24206229 | EL, 2.2μF, ±20%, 50V |
| C206 | 24666100 | EL, 10μF, ±20%, 16V |
| C207 | 24781390 | Chip, 39pF, SL |
| C208 | 24781390 | Chip, 39pF, SL |
| C209 | 24781390 | Chip, 39pF, SL |
| C212 | 24666100 | EL, 10μF, ±20%, 16V |
| C213 | 24092616 | Chip, 0.33μF, ±10%, 16V |
| C220 | 24709100 | EL, 10μF, ±20%, 200V |
| C301 | 24815683 | Chip, 0.068μF, ±10% |
| C302 | 24092463 | Chip, 0.22μF, ±10%, 16V |
| C303 | 24666101 | EL, 100μF, ±20%, 16V |
| C304 | 24092178 | Chip, 0.1μF, ±10%, 25V |
| C305 | 24815103 | Chip, 0.01μF, ±10% |
| C306 | 24815102 | Chip, 0.001μF, ±10% |
| C307 | 24617912 | EL, 2.2μF, ±10%, 50V |
| C309 | 24815102 | Chip, 0.001μF, ±10% |
| C311 | 24815103 | Chip, 0.01μF, ±10% |
| C312 | 24815102 | Chip, 0.001μF, ±10% |
| C313 | 24092573 | Chip, 0.47μF, ±10%, 16V |
| C314 | 24092178 | Chip, 0.1μF, ±10%, 25V |
| C315 | 24666222 | EL, 2200μF, ±20%, 16V |
| C316 | 24666101 | EL, 100μF, ±20%, 16V |
| C317 | 24815222 | Chip, 0.0022μF, ±10% |
| C318 | 24815182 | Chip, 0.0018μF, ±10% |
| C319 | 24667101 | EL, 100μF, ±20%, 25V |

| Location No. | Part No. | Description |
|---|---|---|
| C320 | 24667101 | EL, 100μF, ±20%, 25V |
| C321 | 24667101 | EL, 100μF, ±20%, 25V |
| C322 | 24815393 | Chip, 0.039μF, ±10% |
| C323 | 24815563 | Chip, 0.056μF, ±10% |
| C324 | 24669101 | EL, 100μF, ±20%, 50V |
| C325 | 24082057 | PF, 0.22μF, 100V |
| C326 | 24092463 | Chip, 0.22μF, ±10%, 16V (50A60/55A60/61A60) |
| C327 | 24092463 | Chip, 0.22μF, ±10%, 16V |
| C328 | 24082260 | PF, 4700pF, 100V |
| C329 | 24669100 | EL, 10μF, ±20%, 50V (50A60/55A60/61A60) |
| C330 | 24085946 | EL, 10μF, ±20%, 16V, Non-Polar (50A60/55A60/61A60) |
| C331 | 24815333 | Chip, 0.033μF, ±10% |
| C332 | 24669221 | EL, 220μF, ±20%, 50V |
| C333 | 24693473 | PF, 0.047μF, 100V |
| C334 | 24591471 | PF, 470pF |
| C335 | 24092178 | Chip, 0.1μF, ±10%, 25V (50A60/55A60/61A60) |
| C336 | 24815472 | Chip, 0.0047μF, ±10% (50A60/55A60/61A60) |
| C340 | 24092463 | Chip, 0.22μF, ±10%, 16V |
| C350 | 24669229 | EL, 2.2μF, ±20%, 50V |
| C351 | 24092178 | Chip, 0.1μF, ±10%, 25V |
| C352 | 24669229 | EL, 2.2μF, ±20%, 50V |
| C401 | 24092178 | Chip, 0.1μF, ±10%, 25V |
| C401 | 24214821 | CD, 820pF, ±10%, 500V |
| C402 | 24214391 | CD, 390pF, ±10%, 500V |
| C402 | 24815223 | Chip, 0.022μF, ±10% |
| C403 | 24678100 | EL, 10μF, ±20%, 200V |
| C404 | 24212152 | CD, 1500pF, ±10% |
| C404 | 24669229 | EL, 2.2μF, ±20%, 50V |
| C405 | 24567124 | PF, 0.12μF |
| ⚠C406 | 24082823 | PF, 1500pF, ±3%, 1800V |
| ⚠C407 | 24082946 | PF, 4700pF, ±3%, 1500V |
| ⚠C408 | 24820123 | PF, 0.012μF, ±10%, 630V |
| C410 | 24095900 | PF, 3.3μF, ±10%, 100V |
| C412 | 24828473 | PF, 0.047μF, 200V |
| C413 | 24214221 | CD, 220pF, ±10%, 500V |
| ⚠C414 | 24095782 | PF, 0.47μF, 400V |

| Location No. | Part No. | Description |
|---|---|---|
| C415 | 24092484 | CD, 1500pF, ±10%, 2kV (50A60/55A60/61A60) |
| C416 | 24828333 | PF, 0.033μF, 200V |
| C417 | 24679229 | EL, 2.2μF, ±20%, 250V |
| C418 | 24679330 | EL, 33μF, ±20%, 250V |
| C419 | 24669479 | EL, 4.7μF, ±20%, 50V |
| C423 | 24640908 | EL, 33μF, ±20%, 160V |
| C426 | 24211222 | CD, 2200pF, ±10%, 2kV (50A60/55A60/61A60) |
| C427 | 24828473 | PF, 0.047μF, 200V |
| C429 | 24591102 | PF, 1000pF |
| C430 | 24567103 | PF, 0.01μF |
| C431 | 24567103 | PF, 0.01μF |
| C432 | 24567683 | PF, 0.068μF |
| C433 | 24666100 | EL, 10μF, ±20%, 16V |
| C434 | 24679479 | EL, 4.7μF, ±20%, 250V |
| C435 | 24820222 | PF, 0.0022μF, 630V |
| ⚠C447 | 24082944 | PF, 3900pF, ±3%, 1500V |
| ⚠C448 | 24820123 | PF, 0.012μF, ±10%, 630V |
| C450 | 24815103 | Chip, 0.01μF, ±10% |
| C451 | 24815222 | Chip, 0.0022μF, ±10% |
| C452 | 24666101 | EL, 100μF, ±20%, 16V |
| C481 | 24666101 | EL, 100μF, ±20%, 16V |
| C482 | 24567223 | PF, 0.022μF |
| C484 | 24501102 | PF, 0.001μF |
| C485 | 24567104 | PF, 0.1μF |
| C497 | 24567474 | PF, 0.47μF |
| C498 | 24669479 | EL, 4.7μF, ±20%, 50V |
| C501 | 24815103 | Chip, 0.01μF, ±10% |
| C502 | 24815103 | Chip, 0.01μF, ±10% |
| C503 | 24665101 | EL, 100μF, ±20%, 10V |
| C504 | 24815222 | Chip, 0.0022μF, ±10% |
| C505 | 24774120 | Chip, 12pF, CH |
| C508 | 24666100 | EL, 10μF, ±20%, 16V |
| C509 | 24666101 | EL, 100μF, ±20%, 16V |
| C510 | 24666101 | EL, 100μF, ±20%, 16V |
| C511 | 24815103 | Chip, 0.01μF, ±10% |
| C512 | 24206228 | EL, 0.22μF, ±20%, 50V |
| C513 | 24815103 | Chip, 0.01μF, ±10% |
| C514 | 24092178 | Chip, 0.1μF, ±10%, 25V |
| C515 | 24092178 | Chip, 0.1μF, ±10%, 25V |
| C517 | 24774010 | Chip, 1pF, ±0.25pF, CH |
| C520 | 24666101 | EL, 100μF, ±20%, 16V |
| C531 | 24666101 | EL, 100μF, ±20%, 16V |
| C532 | 24666100 | EL, 10μF, ±20%, 16V |
| C601 | 24815102 | Chip, 0.001μF, ±10% |
| C602 | 24815102 | Chip, 0.001μF, ±10% |
| C603 | 24669100 | EL, 10μF, ±20%, 50V |
| C604 | 24669100 | EL, 10μF, ±20%, 50V |
| C605 | 24667101 | EL, 100μF, ±20%, 25V |
| C606 | 24667101 | EL, 100μF, ±20%, 25V |
| C607 | 24567104 | PF, 0.1μF |
| C608 | 24567104 | PF, 0.1μF |
| C609 | 24669102 | EL, 1000μF, ±20%, 50V |
| C610 | 24669102 | EL, 1000μF, ±20%, 50V |
| C611 | 24667221 | EL, 220μF, ±20%, 25V |
| C612 | 24666470 | EL, 47μF, ±20%, 16V |
| C621 | 24206479 | EL, 4.7μF, ±20%, 50V |
| C622 | 24206108 | EL, 0.1μF, ±20%, 50V |
| C623 | 24814472 | Chip, 0.01μF, +80%, -20% |
| C624 | 24206479 | EL, 4.7μF, ±20%, 50V |
| C625 | 24206479 | EL, 4.7μF, ±20%, 50V |
| C626 | 24206479 | EL, 4.7μF, ±20%, 50V |
| C627 | 24206479 | EL, 4.7μF, ±20%, 50V |

| Location No. | Part No. | Description |
|---|---|---|
| C628 | 24206100 | EL, 10μF, ±20%, 50V |
| C629 | 24206100 | EL, 10μF, ±20%, 50V |
| C630 | 24206108 | EL, 0.1μF, ±20%, 50V |
| C631 | 24814472 | Chip, 0.01μF, +80%, -20% |
| C632 | 24203470 | EL, 47μF, ±20%, 16V |
| C633 | 24092178 | Chip, 0.1μF, ±10%, 25V |
| C634 | 24206108 | EL, 0.1μF, ±20%, 50V |
| C635 | 24206479 | EL, 4.7μF, ±20%, 50V |
| C636 | 24206479 | EL, 4.7μF, ±20%, 50V |
| C637 | 24206100 | EL, 10μF, ±20%, 50V |
| C638 | 24794101 | EL, 100μF, ±20%, 16V |
| C639 | 24815103 | Chip, 0.01μF, ±10% |
| C640 | 24815273 | Chip, 0.027μF, ±10% |
| C641 | 24815822 | Chip, 0.0082μF, ±10% |
| C642 | 24206100 | EL, 10μF, ±20%, 50V |
| C643 | 24206479 | EL, 4.7μF, ±20%, 50V |
| C644 | 24206339 | EL, 3.3μF, ±20%, 50V |
| C645 | 24815333 | Chip, 0.033μF, ±10% |
| C646 | 24815223 | Chip, 0.022μF, ±10% |
| C647 | 24815473 | Chip, 0.047μF, ±10% |
| C648 | 24815333 | Chip, 0.033μF, ±10% |
| C649 | 24815273 | Chip, 0.027μF, ±10% |
| C650 | 24815822 | Chip, 0.0082μF, ±10% |
| C651 | 24815103 | Chip, 0.01μF, ±10% |
| C652 | 24815103 | Chip, 0.01μF, ±10% |
| C653 | 24814103 | Chip, 0.01μF, +80%, -20% |
| C654 | 24763101 | EL, 100μF, ±20%, 16V |
| C661 | 24206010 | EL, 1μF, ±20%, 50V |
| C662 | 24206010 | EL, 1μF, ±20%, 50V |
| C663 | 24206010 | EL, 1μF, ±20%, 50V |
| C664 | 24669479 | EL, 4.7μF, ±20%, 50V |
| C665 | 24815103 | Chip, 0.01μF, ±10% |
| C666 | 24206010 | EL, 1μF, ±20%, 50V |
| C667 | 24747478 | EL, 0.47μF, ±20%, 50V |
| C680 | 24669471 | EL, 470μF, ±20%, 50V |
| C681 | 24666100 | EL, 10μF, ±20%, 16V |
| C682 | 24092178 | Chip, 0.1μF, ±10%, 25V |
| C690 | 24815103 | Chip, 0.01μF, ±10% |
| C701 | 24781330 | Chip, 33pF, SL |
| C702 | 24781330 | Chip, 33pF, SL |
| C703 | 24781330 | Chip, 33pF, SL |
| C704 | 24781330 | Chip, 33pF, SL |
| C706 | 24092293 | Chip, 0.1μF, +80%, -20%, 25V |
| C708 | 24092293 | Chip, 0.1μF, +80%, -20%, 25V |
| C710 | 24092293 | Chip, 0.1μF, +80%, -20%, 25V |
| C711 | 24203100 | EL, 10μF, ±20%, 16V |
| C712 | 24781330 | Chip, 33pF, SL |
| C713 | 24781330 | Chip, 33pF, SL |
| C714 | 24092293 | Chip, 0.1μF, +80%, -20%, 25V |
| C717 | 24774470 | Chip, 47pF, CH |
| C718 | 24774470 | Chip, 47pF, CH |
| C719 | 24794101 | EL, 100μF, ±20%, 16V |
| C720 | 24092293 | Chip, 0.1μF, +80%, -20%, 25V |
| C721 | 24774070 | Chip, 7pF, ±0.25pF, CH |
| C724 | 24092293 | Chip, 0.1μF, +80%, -20%, 25V |
| C725 | 24092293 | Chip, 0.1μF, +80%, -20%, 25V |
| C726 | 24092293 | Chip, 0.1μF, +80%, -20%, 25V |
| C727 | 24092293 | Chip, 0.1μF, +80%, -20%, 25V |
| C728 | 24100104 | Chip, 0.1μF, +80%, -20%, 25V |
| C730 | 24092293 | Chip, 0.1μF, +80%, -20%, 25V |
| C731 | 24092293 | Chip, 0.1μF, +80%, -20%, 25V |
| C732 | 24815103 | Chip, 0.01μF, ±10% |
| C735 | 24092178 | Chip, 0.1μF, ±10%, 25V |
| C736 | 24100104 | Chip, 0.1μF, +80%, -20%, 25V |

| Location No. | Part No. | Description |
|---|---|---|
| C739 | 24092293 | Chip, 0.1μF, +80%, -20%, 25V |
| C740 | 24092293 | Chip, 0.1μF, +80%, -20%, 25V |
| C741 | 24794470 | EL, 47μF, ±20%, 16V |
| C742 | 24794470 | EL, 47μF, ±20%, 16V |
| C743 | 24092293 | Chip, 0.1μF, +80%, -20%, 25V |
| C744 | 24092293 | Chip, 0.1μF, +80%, -20%, 25V |
| C745 | 24794470 | EL, 47μF, ±20%, 16V |
| C746 | 24794470 | EL, 47μF, ±20%, 16V |
| C747 | 24092293 | Chip, 0.1μF, +80%, -20%, 25V |
| C748 | 24092293 | Chip, 0.1μF, +80%, -20%, 25V |
| C749 | 24794470 | EL, 47μF, ±20%, 16V |
| C750 | 24794470 | EL, 47μF, ±20%, 16V |
| C761 | 24774102 | Chip, 1000pF, CH |
| C762 | 24590562 | PF, 5600pF |
| C763 | 24774391 | Chip, 390pF, CH |
| C765 | 24774102 | Chip, 1000pF, CH |
| C766 | 24590562 | PF, 5600pF |
| C767 | 24774391 | Chip, 390pF, CH |
| C769 | 24774102 | Chip, 1000pF, CH |
| C770 | 24590562 | PF, 5600pF |
| C771 | 24774391 | Chip, 390pF, CH |
| C772 | 24761221 | EL, 220μF, ±20%, 6.3V |
| C773 | 24774102 | Chip, 1000pF, CH |
| C774 | 24590562 | PF, 5600pF |
| C775 | 24774391 | Chip, 390pF, CH |
| C777 | 24774102 | Chip, 1000pF, CH |
| C778 | 24590562 | PF, 5600pF |
| C779 | 24774391 | Chip, 390pF, CH |
| C781 | 24774102 | Chip, 1000pF, CH |
| C782 | 24590562 | PF, 5600pF |
| C783 | 24774391 | Chip, 390pF, CH |
| C784 | 24774821 | Chip, 820pF, CH |
| C785 | 24774821 | Chip, 820pF, CH |
| C786 | 24774821 | Chip, 820pF, CH |
| C787 | 24774821 | Chip, 820pF, CH |
| C788 | 24774821 | Chip, 820pF, CH |
| C789 | 24774821 | Chip, 820pF, CH |
| C790 | 24092293 | Chip, 0.1μF, +80%, -20%, 25V |
| C795 | 24761221 | EL, 220μF, ±20%, 6.3V |
| C798 | 24763101 | EL, 100μF, ±20%, 16V |
| C799 | 24763101 | EL, 100μF, ±20%, 16V |
| C801 | 24082001 | PF, 0.47μF, AC125V |
| C809 | 24086062 | EL, 1000μF, ±20%, 200V |
| C810 | 24086062 | EL, 1000μF, ±20%, 200V |
| C814 | 24092597 | CD, 4700pF, ±20%, AC250V |
| C815 | 24092597 | CD, 4700pF, ±20%, AC250V |
| C816 | 24073081 | EL, 1.0μF, ±20%, 50V |
| C817 | 24092597 | CD, 4700pF, ±20%, AC250V |
| C819 | 24567684 | PF, 0.68μF |
| C830 | 24567334 | PF, 0.33μF |
| C831 | 24073037 | EL, 47μF, ±20%, 16V |
| C832 | 24567334 | PF, 0.33μF |
| C833 | 24073037 | EL, 47μF, ±20%, 16V |
| C840 | 24073072 | EL, 1000μF, ±20%, 35V |
| C842 | 24073001 | EL, 100μF, ±20%, 6.3V |
| C843 | 24567104 | PF, 0.1μF |
| C857 | 24073060 | EL, 4700μF, ±20%, 25V |
| C858 | 24073060 | EL, 4700μF, ±20%, 25V |
| C860 | 24214103 | CD, 0.01μF, ±10%, 500V |
| C863 | 24567104 | PF, 0.1μF |
| C864 | 24092474 | CD, 220pF, ±10%, 2kV |
| C866 | 24567474 | PF, 0.47μF |
| C867 | 24591682 | PF, 6800pF |
| C868 | 24073052 | EL, 47μF, ±20%, 25V |

| Location No. | Part No. | Description |
|---|---|---|
| C869 | 24678229 | EL, 2.2μF, ±20%, 200V |
| C870 | 24082890 | PF, 0.082μF, 800V |
| C871 | 24092484 | CD, 1500pF, ±10%, 2kV |
| C872 | 24092474 | CD, 220pF, ±10%, 2kV |
| C873 | 24567224 | PF, 0.22μF |
| C874 | 24212471 | CD, 470pF, ±10% |
| C876 | 24567474 | PF, 0.47μF |
| C879 | 24073081 | EL, 1.0μF, ±20%, 50V |
| C884 | 24086939 | EL, 330μF, ±20%, 200V |
| C890 | 24073096 | EL, 3300μF, ±20%, 50V |
| C891 | 24082229 | PF, 0.1μF, ±10%, 250V |
| C894 | 24073043 | EL, 2200μF, ±20%, 16V |
| C895 | 24073043 | EL, 2200μF, ±20%, 16V |
| C898 | 24212102 | CD, 1000pF, ±10% |
| C901 | 24211102 | CD, 1000pF, ±10%, 2kV |
| C902 | 24794100 | EL, 10μF, ±20%, 16V |
| C903 | 24232103 | CD, 0.01μF, +80%, -20% |
| C904 | 24436102 | CD, 1000pF |
| C908 | 24214472 | CD, 4700pF, ±10%, 500V |
| C909 | 24436221 | CD, 220pF |
| C911 | 24211102 | CD, 1000pF, ±10%, 2kV |
| C912 | 24794100 | EL, 10μF, ±20%, 16V |
| C914 | 24436102 | CD, 1000pF |
| C915 | 24679330 | EL, 33μF, ±20%, 250V |
| C916 | 24794101 | EL, 100μF, ±20%, 16V |
| C918 | 24794470 | EL, 47μF, ±20%, 16V |
| C919 | 24436221 | CD, 220pF |
| C921 | 24211102 | CD, 1000pF, ±10%, 2kV |
| C922 | 24794100 | EL, 10μF, ±20%, 16V |
| C923 | 24794470 | EL, 47μF, ±20%, 16V |
| C924 | 24232103 | CD, 0.01μF, +80%, -20% |
| C925 | 24794470 | EL, 47μF, ±20%, 16V |
| C926 | 24436102 | CD, 1000pF |
| C927 | 24436221 | CD, 220pF |
| C928 | 24214472 | CD, 4700pF, ±10%, 500V |
| C929 | 24794100 | EL, 10μF, ±20%, 16V |
| C961 | 24666101 | EL, 100μF, ±20%, 16V |
| C962 | 24203100 | EL, 10μF, ±20%, 16V |
| C963 | 24232103 | CD, 0.01μF, +80%, -20% |
| C964 | 24567104 | PF, 0.1μF |
| C7721 | 24815102 | Chip, 0.001μF, ±10% |
| C7722 | 24781101 | Chip, 100pF, SL |
| C7724 | 24667101 | EL, 100μF, ±20%, 25V |
| C7725 | 24667101 | EL, 100μF, ±20%, 25V |
| C7726 | 24815102 | Chip, 0.001μF, ±10% |
| C7727 | 24781101 | Chip, 100pF, SL |
| C7729 | 24815102 | Chip, 0.001μF, ±10% |
| C7730 | 24781101 | Chip, 100pF, SL |
| C7732 | 24815102 | Chip, 0.001μF, ±10% |
| C7733 | 24781101 | Chip, 100pF, SL |
| C7735 | 24667101 | EL, 100μF, ±20%, 25V |
| C7736 | 24667101 | EL, 100μF, ±20%, 25V |
| C7737 | 24815102 | Chip, 0.001μF, ±10% |
| C7738 | 24781101 | Chip, 100pF, SL |
| C7740 | 24815102 | Chip, 0.001μF, ±10% |
| C7741 | 24781101 | Chip, 100pF, SL |
| C7744 | 24815103 | Chip, 0.01μF, ±10% |
| C7747 | 24667101 | EL, 100μF, ±20%, 25V |
| C7748 | 24567104 | PF, 0.1μF |
| C7749 | 24567104 | PF, 0.1μF |
| C7750 | 24667101 | EL, 100μF, ±20%, 25V |
| C7751 | 24667101 | EL, 100μF, ±20%, 25V |
| C7752 | 24567104 | PF, 0.1μF |
| C7753 | 24567104 | PF, 0.1μF |
| C7754 | 24667101 | EL, 100μF, ±20%, 25V |

| Location No. | Part No. | Description |
|---|---|---|
| C7755 | 24667101 | EL, 100μF, ±20%, 25V |
| C7765 | 24669479 | EL, 4.7μF, ±20%, 50V |
| C7766 | 24669479 | EL, 4.7μF, ±20%, 50V |
| C7767 | 24667470 | EL, 47μF, ±20%, 25V |
| C7769 | 24815103 | Chip, 0.01μF, ±10% |
| C7774 | 24781101 | Chip, 100pF, SL |
| C7776 | 24667470 | EL, 47μF, ±20%, 25V |
| CA10 | 24781101 | Chip, 100pF, SL |
| CA13 | 24815221 | Chip, 220pF, ±10% |
| CA18 | 24666470 | EL, 47μF, ±20%, 16V |
| CA20 | 24774181 | Chip, 180pF, CH |
| CA21 | 24092442 | Chip, 0.47μF, +80%, -20%, 16V |
| CA22 | 24815103 | Chip, 0.01μF, ±10% |
| CA23 | 24774181 | Chip, 180pF, CH |
| CA24 | 24092442 | Chip, 0.47μF, +80%, -20%, 16V |
| CA25 | 24666100 | EL, 10μF, ±20%, 16V |
| CA26 | 24092441 | Chip, 1μF, +80%, -20%, 16V |
| CA27 | 24092441 | Chip, 1μF, +80%, -20%, 16V |
| CA29 | 24815221 | Chip, 220pF, ±10% |
| CA30 | 24774101 | Chip, 100pF, CH |
| CA34 | 24781101 | Chip, 100pF, SL |
| CA45 | 24666100 | EL, 10μF, ±20%, 16V |
| CA49 | 24666100 | EL, 10μF, ±20%, 16V |
| CA50 | 24814103 | Chip, 0.01μF, +80%, -20% |
| CA52 | 24815272 | Chip, 0.0027μF, ±10% |
| CA54 | 24781101 | Chip, 100pF, SL |
| CA59 | 24781101 | Chip, 100pF, SL |
| CA60 | 24781101 | Chip, 100pF, SL |
| CA61 | 24666220 | EL, 22μF, ±20%, 16V |
| CA64 | 24814103 | Chip, 0.01μF, +80%, -20% |
| CA68 | 24666100 | EL, 10μF, ±20%, 16V |
| CA69 | 24814103 | Chip, 0.01μF, +80%, -20% |
| CA71 | 24781101 | Chip, 100pF, SL |
| CA72 | 24085981 | EL, 10μF, ±20%, 16V, Non-Polar |
| CA73 | 24666100 | EL, 10μF, ±20%, 16V |
| CB11 | 24794470 | EL, 47μF, ±20%, 16V |
| CB13 | 24085981 | EL, 10μF, ±20%, 16V, Non-Polar |
| CB14 | 24781101 | Chip, 100pF, SL |
| CB15 | 24794100 | EL, 10μF, ±20%, 16V |
| CB42 | 24232103 | CD, 0.01μF, +80%, -20% |
| CB61 | 24781221 | Chip, 220pF, SL |
| CB90 | 24815103 | Chip, 0.01μF, ±10% |
| CB91 | 24666100 | EL, 10μF, ±20%, 16V |
| CD02 | 24591562 | PF, 5600pF |
| CD03 | 24591393 | PF, 0.039μF |
| CD04 | 24591393 | PF, 0.039μF |
| CD08 | 24794100 | EL, 10μF, ±20%, 16V |
| CD10 | 24436101 | CD, 100pF |
| CD12 | 24436101 | CD, 100pF |
| CD13 | 24797479 | EL, 4.7μF, ±20%, 50V |
| CD14 | 24797229 | EL, 2.2μF, ±20%, 50V |
| CD15 | 24794470 | EL, 47μF, ±20%, 16V |
| CD16 | 24797229 | EL, 2.2μF, ±20%, 50V |
| CR12 | 24092178 | Chip, 0.1μF, ±10%, 25V |
| CR13 | 24092178 | Chip, 0.1μF, ±10%, 25V |
| CR14 | 24092178 | Chip, 0.1μF, ±10%, 25V |
| CR15 | 24092178 | Chip, 0.1μF, ±10%, 25V |
| CR16 | 24092178 | Chip, 0.1μF, ±10%, 25V |
| CR17 | 24092178 | Chip, 0.1μF, ±10%, 25V |
| CS03 | 24436221 | CD, 220pF |

| Location No. | Part No. | Description |
|---|---|---|
| CS04 | 24206010 | EL, 1μF, ±20%, 50V |
| CS07 | 24436221 | CD, 220pF |
| CS08 | 24206010 | EL, 1μF, ±20%, 50V |
| CS09 | 24436331 | CD, 330pF |
| CS10 | 24206229 | EL, 2.2μF, ±20%, 50V |
| CS11 | 24206010 | EL, 1μF, ±20%, 50V |
| CS12 | 24436221 | CD, 220pF |
| CS13 | 24206010 | EL, 1μF, ±20%, 50V |
| CS14 | 24436221 | CD, 220pF |
| CS15 | 24436331 | CD, 330pF |
| CS16 | 24206229 | EL, 2.2μF, ±20%, 50V |
| CS21 | 24436101 | CD, 100pF |
| CS22 | 24436101 | CD, 100pF |
| CS23 | 24206478 | EL, 0.47μF, ±20%, 50V |
| CS24 | 24436331 | CD, 330pF |
| CS25 | 24206229 | EL, 2.2μF, ±20%, 50V |
| CS28 | 24436331 | CD, 330pF |
| CS29 | 24436331 | CD, 330pF |
| CS32 | 24203100 | EL, 10μF, ±20%, 16V |
| CS33 | 24203100 | EL, 10μF, ±20%, 16V |
| CS34 | 24436331 | CD, 330pF |
| CS35 | 24206229 | EL, 2.2μF, ±20%, 50V |
| CS36 | 24206229 | EL, 2.2μF, ±20%, 50V |
| CS38 | 24206229 | EL, 2.2μF, ±20%, 50V |
| CS41 | 24436331 | CD, 330pF |
| CS42 | 24206229 | EL, 2.2μF, ±20%, 50V |
| CS43 | 24436331 | CD, 330pF |
| CS44 | 24206229 | EL, 2.2μF, ±20%, 50V |
| CV01 | 24085981 | EL, 10μF, ±20%, 16V, Non-Polar |
| CV02 | 24232103 | CD, 0.01μF, +80%, -20% |
| CV03 | 24203100 | EL, 10μF, ±20%, 16V |
| CV04 | 24203100 | EL, 10μF, ±20%, 16V |
| CV05 | 24203100 | EL, 10μF, ±20%, 16V |
| CV08 | 24666471 | EL, 470μF, ±20%, 16V |
| CV09 | 24666471 | EL, 470μF, ±20%, 16V |
| CV13 | 24794100 | EL, 10μF, ±20%, 16V |
| CV14 | 24232103 | CD, 0.01μF, +80%, -20% |
| CV15 | 24232103 | CD, 0.01μF, +80%, -20% |
| CV16 | 24085981 | EL, 10μF, ±20%, 16V, Non-Polar |
| CV17 | 24203100 | EL, 10μF, ±20%, 16V |
| CV19 | 24232103 | CD, 0.01μF, +80%, -20% |
| CV21 | 24203100 | EL, 10μF, ±20%, 16V |
| CV22 | 24203100 | EL, 10μF, ±20%, 16V |
| CV23 | 24232103 | CD, 0.01μF, +80%, -20% |
| CV24 | 24232103 | CD, 0.01μF, +80%, -20% |
| CV27 | 24202221 | EL, 220μF, ±20%, 10V |
| CV28 | 24202221 | EL, 220μF, ±20%, 10V |
| CV29 | 24203101 | EL, 100μF, ±20%, 16V |
| CV30 | 24232103 | CD, 0.01μF, +80%, -20% |
| CV31 | 24203100 | EL, 10μF, ±20%, 16V |
| CV38 | 24203101 | EL, 100μF, ±20%, 16V |
| CV39 | 24212102 | CD, 1000pF, ±10% |
| CV40 | 24763101 | EL, 100μF, ±20%, 16V |
| CV41 | 24232103 | CD, 0.01μF, +80%, -20% |
| CV42 | 24085971 | EL, 3.3μF, ±20%, 50V, Non-Polar |
| CV43 | 24436121 | CD, 120pF |
| CV44 | 24436220 | CD, 22pF |
| CV46 | 24232103 | CD, 0.01μF, +80%, -20% |
| CV48 | 24763101 | EL, 100μF, ±20%, 16V |
| CV49 | 24232103 | CD, 0.01μF, +80%, -20% |
| CV61 | 24232103 | CD, 0.01μF, +80%, -20% |

| Location No. | Part No. | Description |
|---|---|---|
| CV64 | 24206100 | EL, 10μF, ±20%, 50V |
| CV65 | 24591122 | PF, 1200pF |
| CV66 | 24436561 | CD, 560pF |
| CV67 | 24591102 | PF, 1000pF |
| CV68 | 24206010 | EL, 1μF, ±20%, 50V |
| CW04 | 24591822 | PF, 8200pF |
| CW05 | 24212103 | CD, 0.01μF, ±10% |
| CW07 | 24666470 | EL, 47μF, ±20%, 16V |
| CW08 | 24794101 | EL, 100μF, ±20%, 16V |
| CW09 | 24815103 | Chip, 0.01μF, ±10% |
| CW12 | 24666470 | EL, 47μF, ±20%, 16V |
| CW13 | 24709100 | EL, 10μF, ±20%, 200V |
| CW14 | 24436101 | CD, 100pF |
| CW15 | 24214472 | CD, 4700pF, ±10%, 500V |
| CW16 | 24436101 | CD, 100pF |
| CW17 | 24214472 | CD, 4700pF, ±10%, 500V |
| CW18 | 24666470 | EL, 47μF, ±20%, 16V |
| CW19 | 24435560 | CD, 56pF, 500V |
| CW20 | 24709100 | EL, 10μF, ±20%, 200V |
| CW21 | 24666470 | EL, 47μF, ±20%, 16V |
| CW22 | 24436561 | CD, 560pF |
| CW26 | 24212102 | CD, 1000pF, ±10% |
| CW52 | 24203100 | EL, 10μF, ±20%, 16V |
| CW53 | 24203100 | EL, 10μF, ±20%, 16V |
| CW54 | 24203100 | EL, 10μF, ±20%, 16V |
| CW58 | 24794101 | EL, 100μF, ±20%, 16V |
| CW59 | 24232103 | CD, 0.01μF, +80%, -20% |
| CY01 | 24665471 | EL, 470μF, ±20%, 10V |
| CY40 | 24206100 | EL, 10μF, ±20%, 50V |
| CZ03 | 24092442 | Chip, 0.47μF, +80%, -20%, 16V |
| CZ05 | 24814103 | Chip, 0.01μF, +80%, -20% |
| CZ07 | 24092178 | Chip, 0.1μF, ±10%, 25V |
| CZ09 | 24781220 | Chip, 22pF, SL |
| CZ10 | 24781100 | Chip, 10pF, ±0.5pF%, SL |
| CZ11 | 24781220 | Chip, 22pF, SL |
| CZ12 | 24814103 | Chip, 0.01μF, +80%, -20% |
| CZ13 | 24814103 | Chip, 0.01μF, +80%, -20% |
| CZ14 | 24203100 | EL, 10μF, ±20%, 16V |
| CZ17 | 24814103 | Chip, 0.01μF, +80%, -20% |
| CZ19 | 24781181 | Chip, 180pF, SL |
| CZ20 | 24814103 | Chip, 0.01μF, +80%, -20% |
| CZ21 | 24781122 | Chip, 1200pF, SL |
| CZ22 | 24203100 | EL, 10μF, ±20%, 16V |
| CZ23 | 24814103 | Chip, 0.01μF, +80%, -20% |
| CZ24 | 24814103 | Chip, 0.01μF, +80%, -20% |
| CZ25 | 24203100 | EL, 10μF, ±20%, 16V |
| CZ26 | 24814103 | Chip, 0.01μF, +80%, -20% |
| CZ28 | 24814103 | Chip, 0.01μF, +80%, -20% |
| CZ29 | 24814103 | Chip, 0.01μF, +80%, -20% |
| CZ30 | 24203100 | EL, 10μF, ±20%, 16V |
| CZ31 | 24092178 | Chip, 0.1μF, ±10%, 25V |
| CZ32 | 24781150 | Chip, 15pF, SL |
| CZ33 | 24781390 | Chip, 39pF, SL |
| CZ34 | 24781150 | Chip, 15pF, SL |
| CZ35 | 24781390 | Chip, 39pF, SL |
| CZ37 | 24203100 | EL, 10μF, ±20%, 16V |
| CZ38 | 24203100 | EL, 10μF, ±20%, 16V |
| CZ41 | 24781470 | Chip, 47pF, SL |
| CZ42 | 24781470 | Chip, 47pF, SL |
| CZ45 | 24781100 | Chip, 10pF, ±0.5pF%, SL |

## RESISTORS

| Location No. | Part No. | Description |
|---|---|---|
| R101 | 24383223 | OMF, 22k ohm, 2W |
| R150 | 24872101 | Chip, 100 ohm, 1/16W (50A60/55A60/61A60) |
| R151 | 24872562 | Chip, 5600 ohm, 1/16W (50A60/55A60/61A60) |
| R152 | 24872103 | Chip, 10k ohm, 1/16W (50A60/55A60/61A60) |
| R201 | 24872821 | Chip, 820 ohm, 1/16W |
| R202 | 24872102 | Chip, 1k ohm, 1/16W |
| R204 | 24872104 | Chip, 100k ohm, 1/16W |
| R205 | 24872101 | Chip, 100 ohm, 1/16W (50A60/55A60/61A60) |
| R206 | 24872102 | Chip, 1k ohm, 1/16W (50A60/55A60/61A60) |
| R207 | 24872101 | Chip, 100 ohm, 1/16W |
| R208 | 24872101 | Chip, 100 ohm, 1/16W |
| R209 | 24872101 | Chip, 100 ohm, 1/16W |
| R212 | 24872472 | Chip, 4700 ohm, 1/16W |
| R213 | 24872122 | Chip, 1200 ohm, 1/16W |
| R214 | 24872222 | Chip, 2200 ohm, 1/16W |
| R216 | 24872103 | Chip, 10k ohm, 1/16W |
| R223 | 24872102 | Chip, 1k ohm, 1/16W |
| R241 | 24367103 | CF, 10k ohm, ±2% |
| R242 | 24367103 | CF, 10k ohm, ±2% |
| R243 | 24381563 | OMF, 56k ohm, 1/2W |
| R266 | 24872102 | Chip, 1k ohm, 1/16W |
| R267 | 24872821 | Chip, 820 ohm, 1/16W |
| R268 | 24872102 | Chip, 1k ohm, 1/16W |
| R269 | 24872102 | Chip, 1k ohm, 1/16W |
| R270 | 24872682 | Chip, 6800 ohm, 1/16W |
| R301 | 24872103 | Chip, 10k ohm, 1/16W |
| R302 | 24872101 | Chip, 100 ohm, 1/16W |
| R303 | 24872102 | Chip, 1k ohm, 1/16W |
| R304 | 24872103 | Chip, 10k ohm, 1/16W |
| R305 | 24872153 | Chip, 15k ohm, 1/16W |
| R307 | 24872471 | Chip, 470 ohm, 1/16W |
| R308 | 24872471 | Chip, 470 ohm, 1/16W |
| R310 | 24872562 | Chip, 5600 ohm, 1/16W |
| R311 | 24872103 | Chip, 10k ohm, 1/16W |
| R312 | 24872103 | Chip, 10k ohm, 1/16W |
| R313 | 24872102 | Chip, 1k ohm, 1/16W |
| R314 | 24872473 | Chip, 47k ohm, 1/16W |
| R315 | 24872821 | Chip, 820 ohm, 1/16W |
| R316 | 24872102 | Chip, 1k ohm, 1/16W |
| R317 | 24872824 | Chip, 820k ohm, 1/16W |
| R318 | 24872153 | Chip, 15k ohm, 1/16W |
| R319 | 24872100 | Chip, 10 ohm, 1/16W |
| R320 | 24000249 | MF, 47k ohm, 1/4W |
| R321 | 24872332 | Chip, 3300 ohm, 1/16W |
| R322 | 24000529 | MF, 6800 ohm, 1/4W |
| R323 | 24000639 | MF, 22k ohm, 1/4W |
| R324 | 24872103 | Chip, 10k ohm, 1/16W |
| R325 | 24872222 | Chip, 2200 ohm, 1/16W |
| R326 | 24872103 | Chip, 10k ohm, 1/16W |
| R327 | 24872103 | Chip, 10k ohm, 1/16W |
| R328 | 24872103 | Chip, 10k ohm, 1/16W |
| R329 | 24872103 | Chip, 10k ohm, 1/16W |
| R330 | 24872153 | Chip, 15k ohm, 1/16W |
| R331 | 24019119 | MF, 30k ohm, 1/6W |
| R332 | 24000525 | MF, 4.7k ohm, 1/4W |
| R333 | 24872103 | Chip, 10k ohm, 1/16W |
| R334 | 24872102 | Chip, 1k ohm, 1/16W |
| R335 | 24872102 | Chip, 1k ohm, 1/16W |
| R336 | 24872102 | Chip, 1k ohm, 1/16W |
| R337 | 24321129 | MF, 1.2 ohm, 1/2W |

| Location No. | Part No. | Description |
|---|---|---|
| R338 | 24872682 | Chip, 6800 ohm, 1/16W (50A60/55A60/61A60) |
| R339 | 24872393 | Chip, 39k ohm, 1/16W (50A60/55A60/61A60) |
| R340 | 24872824 | Chip, 820k ohm, 1/16W (50A60/55A60/61A60) |
| R341 | 24872273 | Chip, 27k ohm, 1/16W (50A60/55A60/61A60) |
| R342 | 24872153 | Chip, 15k ohm, 1/16W |
| R343 | 24872102 | Chip, 1k ohm, 1/16W (50A60/55A60/61A60) |
| R344 | 24382271 | OMF, 270 ohm, 1W |
| R345 | 24322828 | MF, 0.82 ohm, 1W |
| R346 | 24382391 | OMF, 390 ohm, 1W |
| R347 | 24872103 | Chip, 10k ohm, 1/16W (50A60/55A60/61A60) |
| R348 | 24872103 | Chip, 10k ohm, 1/16W (50A60/55A60/61A60) |
| R349 | 24872392 | Chip, 3900 ohm, 1/16W (50A60/55A60/61A60) |
| R350 | 24872822 | Chip, 8200 ohm, 1/16W (50A60/55A60/61A60) |
| R351 | 24366472 | CF, 4700 ohm (50A60/55A60/61A60) |
| R360 | 24872103 | Chip, 10k ohm, 1/16W |
| R361 | 24872103 | Chip, 10k ohm, 1/16W |
| R362 | 24872103 | Chip, 10k ohm, 1/16W |
| R363 | 24872682 | Chip, 6800 ohm, 1/16W |
| R364 | 24872103 | Chip, 10k ohm, 1/16W |
| R370 | 24872102 | Chip, 1k ohm, 1/16W |
| R371 | 24872823 | Chip, 82k ohm, 1/16W |
| R372 | 24872332 | Chip, 3300 ohm, 1/16W |
| R373 | 24872823 | Chip, 82k ohm, 1/16W |
| R374 | 24872104 | Chip, 100k ohm, 1/16W |
| R375 | 24872153 | Chip, 15k ohm, 1/16W |
| R376 | 24872333 | Chip, 33k ohm, 1/16W |
| R378 | 24872222 | Chip, 2200 ohm, 1/16W |
| R401 | 24366102 | CF, 1k ohm |
| R401 | 24872391 | Chip, 390 ohm, 1/16W |
| R402 | 24366102 | CF, 1k ohm |
| R403 | 24553272 | OMF, 2700 ohm, 1W |
| R403 | 24872302 | Chip, 3k ohm, 1/16W |
| R404 | 24384682 | OMF, 6800 ohm, 3W |
| R405 | 24552330 | OMF, 33 ohm, 1/2W |
| R406 | 24382222 | OMF, 2200 ohm, 1W |
| R406 | 24872223 | Chip, 22k ohm, 1/16W |
| R407 | 24552100 | OMF, 10 ohm, 1/2W |
| R407 | 24872103 | Chip, 10k ohm, 1/16W |
| R408 | 24366101 | CF, 100 ohm |
| R409 | 24555220 | OMF, 22 ohm, 3W |
| R410 | 24555220 | OMF, 22 ohm, 3W |
| R411 | 24383270 | OMF, 27 ohm, 2W |
| R412 | 24366223 | CF, 22k ohm |
| R413 | 24366332 | CF, 3300 ohm |
| R414 | 24366100 | CF, 10 ohm |
| R415 | 24533102 | FR, 1k ohm, 2W |
| R418 | 24019292 | FR, 68 ohm, 1/2W |
| R419 | 24942102 | CC, 1k ohm, 1/2W |
| R420 | 24382473 | OMF, 47k ohm, 1W |
| R421 | 24382104 | OMF, 100k ohm, 1W (50A60/55A60/61A60) |
| R423 | 24872471 | Chip, 470 ohm, 1/16W |
| R424 | 24338398 | MF, 0.39 ohm, 1W |
| R426 | 24000112 | FR, 10 ohm, 1/4W |

| Location No. | Part No. | Description |
|---|---|---|
| R428 | 24310109 | MF, 1.0 ohm, 1/2W |
| R431 | 24383102 | OMF, 1k ohm, 2W (50A60/55A60/61A60) |
| R432 | 24376274 | CF, 270k ohm, 1/2W (50A60/55A60/61A60) |
| R432 | 24552101 | OMF, 100 ohm, 1/2W |
| R433 | 24376274 | CF, 270k ohm, 1/2W (50A60/55A60/61A60) |
| R433 | 24872222 | Chip, 2200 ohm, 1/16W |
| R434 | 24376274 | CF, 270k ohm, 1/2W (50A60/55A60/61A60) |
| R435 | 24322228 | MF, 0.22 ohm, 1W |
| R436 | 24382561 | OMF, 560 ohm, 1W |
| R437 | 24382561 | OMF, 560 ohm, 1W |
| R438 | 24382561 | OMF, 560 ohm, 1W |
| R439 | 24366103 | CF, 10k ohm |
| R440 | 24366103 | CF, 10k ohm |
| R441 | 24366474 | CF, 470k ohm |
| R442 | 24366103 | CF, 10k ohm |
| R443 | 24366562 | CF, 5600 ohm |
| R444 | 24366103 | CF, 10k ohm |
| R445 | 24366472 | CF, 4700 ohm |
| R446 | 24366103 | CF, 10k ohm |
| R447 | 24366681 | CF, 680 ohm |
| R448 | 24366334 | CF, 330k ohm |
| R449 | 24366101 | CF, 100 ohm |
| R451 | 24872224 | Chip, 220k ohm, 1/16W |
| R468 | 24366103 | CF, 10k ohm |
| R469 | 24366222 | CF, 2200 ohm |
| R470 | 24338828 | MF, 0.82 ohm, 1W |
| R471 | 24552271 | OMF, 270 ohm, 1/2W |
| R472 | 24552151 | OMF, 150 ohm, 1/2W |
| R473 | 24327223 | MF, 22k ohm, ±1%, 1/4W |
| R474 | 24327223 | MF, 22k ohm, ±1%, 1/4W |
| R475 | 24366102 | CF, 1k ohm |
| R479 | 24366393 | CF, 39k ohm |
| R480 | 24366103 | CF, 10k ohm |
| R481 | 24366102 | CF, 1k ohm |
| R482 | 24366331 | CF, 330 ohm |
| R483 | 24366102 | CF, 1k ohm |
| R484 | 24366474 | CF, 470k ohm |
| R485 | 24366103 | CF, 10k ohm |
| R486 | 24366103 | CF, 10k ohm |
| ⚠ R487 | 24000366 | MF, 2200 ohm, 1/4W |
| ⚠ R488 | 24000357 | MF, 910ohm, 1/4W |
| R489 | 24366222 | CF, 2200 ohm |
| R490 | 24000639 | MF, 22k ohm, 1/4W |
| R492 | 24366392 | CF, 3900 ohm |
| R493 | 24366224 | CF, 220k ohm |
| ⚠ R494 | 24000635 | MF, 12k ohm, ±1%, 1/4W |
| R495 | 24366473 | CF, 47k ohm |
| R496 | 24366223 | CF, 22k ohm |
| R497 | 24366103 | CF, 10k ohm |
| R498 | 24366223 | CF, 22k ohm |
| R499 | 24366683 | CF, 68k ohm |
| R501 | 24872223 | Chip, 22k ohm, 1/16W |
| R502 | 24872101 | Chip, 100 ohm, 1/16W |
| R503 | 24872101 | Chip, 100 ohm, 1/16W |
| R504 | 24872101 | Chip, 100 ohm, 1/16W |
| R505 | 24872471 | Chip, 470 ohm, 1/16W |
| R506 | 24872103 | Chip, 10k ohm, 1/16W |
| R508 | 24872102 | Chip, 1k ohm, 1/16W |
| R509 | 24872471 | Chip, 470 ohm, 1/16W |
| R510 | 24872102 | Chip, 1k ohm, 1/16W |

| Location No. | Part No. | Description |
|---|---|---|
| R512 | 24872101 | Chip, 100 ohm, 1/16W |
| R514 | 24872122 | Chip, 1200 ohm, 1/16W |
| R515 | 24872103 | Chip, 10k ohm, 1/16W |
| R530 | 24872101 | Chip, 100 ohm, 1/16W |
| R531 | 24872101 | Chip, 100 ohm, 1/16W |
| R532 | 24872101 | Chip, 100 ohm, 1/16W |
| R533 | 24872102 | Chip, 1k ohm, 1/16W |
| R534 | 24872102 | Chip, 1k ohm, 1/16W |
| R535 | 24872102 | Chip, 1k ohm, 1/16W |
| R536 | 24872272 | Chip, 2700 ohm, 1/16W |
| R537 | 24872472 | Chip, 4700 ohm, 1/16W |
| R538 | 24872103 | Chip, 10k ohm, 1/16W |
| R601 | 24872682 | Chip, 6800 ohm, 1/16W |
| R602 | 24872682 | Chip, 6800 ohm, 1/16W |
| R603 | 24872562 | Chip, 5600 ohm, 1/16W |
| R604 | 24872562 | Chip, 5600 ohm, 1/16W |
| R609 | 24872229 | Chip, 2.2 ohm, 1/16W |
| R610 | 24872229 | Chip, 2.2 ohm, 1/16W |
| R611 | 24872332 | Chip, 3300 ohm, 1/16W |
| R612 | 24872332 | Chip, 3300 ohm, 1/16W |
| R613 | 24872222 | Chip, 2200 ohm, 1/16W |
| R621 | 24872101 | Chip, 100 ohm, 1/16W |
| R622 | 24872105 | Chip, 1M ohm, 1/16W |
| R623 | 24872101 | Chip, 100 ohm, 1/16W |
| R624 | 24872101 | Chip, 100 ohm, 1/16W |
| R625 | 24872101 | Chip, 100 ohm, 1/16W |
| R626 | 24872101 | Chip, 100 ohm, 1/16W |
| R627 | 24872101 | Chip, 100 ohm, 1/16W |
| R633 | 24872101 | Chip, 100 ohm, 1/16W |
| R634 | 24872101 | Chip, 100 ohm, 1/16W |
| R635 | 24872101 | Chip, 100 ohm, 1/16W |
| R636 | 24872101 | Chip, 100 ohm, 1/16W |
| R637 | 24872101 | Chip, 100 ohm, 1/16W |
| R638 | 24872101 | Chip, 100 ohm, 1/16W |
| R639 | 24872101 | Chip, 100 ohm, 1/16W |
| R640 | 24872101 | Chip, 100 ohm, 1/16W |
| R641 | 24872101 | Chip, 100 ohm, 1/16W |
| R642 | 24872101 | Chip, 100 ohm, 1/16W |
| R643 | 24872101 | Chip, 100 ohm, 1/16W |
| R661 | 24872101 | Chip, 100 ohm, 1/16W |
| R662 | 24872153 | Chip, 15k ohm, 1/16W |
| R663 | 24872123 | Chip, 12k ohm, 1/16W |
| R665 | 24872223 | Chip, 22k ohm, 1/16W |
| R666 | 24872473 | Chip, 47k ohm, 1/16W |
| R667 | 24872223 | Chip, 22k ohm, 1/16W |
| R668 | 24872473 | Chip, 47k ohm, 1/16W |
| R669 | 24872222 | Chip, 2200 ohm, 1/16W |
| R671 | 24872101 | Chip, 100 ohm, 1/16W |
| R672 | 24872153 | Chip, 15k ohm, 1/16W |
| R673 | 24872123 | Chip, 12k ohm, 1/16W |
| R674 | 24872103 | Chip, 10k ohm, 1/16W |
| R675 | 24872473 | Chip, 47k ohm, 1/16W |
| R682 | 24872473 | Chip, 47k ohm, 1/16W |
| R683 | 24872223 | Chip, 22k ohm, 1/16W |
| R684 | 24872223 | Chip, 22k ohm, 1/16W |
| R687 | 24872103 | Chip, 10k ohm, 1/16W |
| R689 | 24872222 | Chip, 2200 ohm, 1/16W |
| R690 | 24872103 | Chip, 10k ohm, 1/16W |
| R701 | 24872221 | Chip, 220 ohm, 1/16W |
| R702 | 24872221 | Chip, 220 ohm, 1/16W |
| R703 | 24872472 | Chip, 4700 ohm, 1/16W |
| R704 | 24872472 | Chip, 4700 ohm, 1/16W |
| R707 | 24872100 | Chip, 10 ohm, 1/16W |
| R708 | 24872100 | Chip, 10 ohm, 1/16W |

| Location No. | Part No. | Description |
|---|---|---|
| R709 | 24872100 | Chip, 10 ohm, 1/16W |
| R710 | 24872100 | Chip, 10 ohm, 1/16W |
| R711 | 24872100 | Chip, 10 ohm, 1/16W |
| R712 | 24872100 | Chip, 10 ohm, 1/16W |
| R713 | 24872100 | Chip, 10 ohm, 1/16W |
| R714 | 24872100 | Chip, 10 ohm, 1/16W |
| R716 | 24872103 | Chip, 10k ohm, 1/16W |
| R718 | 24872221 | Chip, 220 ohm, 1/16W |
| R719 | 24872103 | Chip, 10k ohm, 1/16W |
| R720 | 24872103 | Chip, 10k ohm, 1/16W |
| R721 | 24872103 | Chip, 10k ohm, 1/16W |
| R722 | 24872561 | Chip, 560 ohm, 1/16W |
| R723 | 24872102 | Chip, 1k ohm, 1/16W |
| R724 | 24872102 | Chip, 1k ohm, 1/16W |
| R725 | 24872102 | Chip, 1k ohm, 1/16W |
| R727 | 24872222 | Chip, 2200 ohm, 1/16W |
| R728 | 24872221 | Chip, 220 ohm, 1/16W |
| R729 | 24872221 | Chip, 220 ohm, 1/16W |
| R730 | 24872473 | Chip, 47k ohm, 1/16W |
| R731 | 24872473 | Chip, 47k ohm, 1/16W |
| R732 | 24872473 | Chip, 47k ohm, 1/16W |
| R733 | 24872473 | Chip, 47k ohm, 1/16W |
| R734 | 24872221 | Chip, 220 ohm, 1/16W |
| R735 | 24872911 | Chip, 910 ohm, 1/16W |
| R736 | 24872911 | Chip, 910 ohm, 1/16W |
| R737 | 24872152 | Chip, 1500 ohm, 1/16W |
| R738 | 24872332 | Chip, 3300 ohm, 1/16W |
| R739 | 24872362 | Chip, 3600 ohm, 1/16W |
| R740 | 24872911 | Chip, 910 ohm, 1/16W |
| R741 | 24872911 | Chip, 910 ohm, 1/16W |
| R742 | 24872152 | Chip, 1500 ohm, 1/16W |
| R743 | 24872332 | Chip, 3300 ohm, 1/16W |
| R744 | 24872362 | Chip, 3600 ohm, 1/16W |
| R745 | 24872911 | Chip, 910 ohm, 1/16W |
| R746 | 24872911 | Chip, 910 ohm, 1/16W |
| R747 | 24872152 | Chip, 1500 ohm, 1/16W |
| R748 | 24872332 | Chip, 3300 ohm, 1/16W |
| R749 | 24872362 | Chip, 3600 ohm, 1/16W |
| R750 | 24872911 | Chip, 910 ohm, 1/16W |
| R751 | 24872911 | Chip, 910 ohm, 1/16W |
| R752 | 24872152 | Chip, 1500 ohm, 1/16W |
| R753 | 24872332 | Chip, 3300 ohm, 1/16W |
| R754 | 24872362 | Chip, 3600 ohm, 1/16W |
| R755 | 24872911 | Chip, 910 ohm, 1/16W |
| R756 | 24872911 | Chip, 910 ohm, 1/16W |
| R757 | 24872152 | Chip, 1500 ohm, 1/16W |
| R758 | 24872332 | Chip, 3300 ohm, 1/16W |
| R759 | 24872362 | Chip, 3600 ohm, 1/16W |
| R760 | 24872911 | Chip, 910 ohm, 1/16W |
| R761 | 24872911 | Chip, 910 ohm, 1/16W |
| R762 | 24872152 | Chip, 1500 ohm, 1/16W |
| R763 | 24872332 | Chip, 3300 ohm, 1/16W |
| R764 | 24872362 | Chip, 3600 ohm, 1/16W |
| R778 | 24872101 | Chip, 100 ohm, 1/16W |
| R779 | 24872101 | Chip, 100 ohm, 1/16W |
| R780 | 24872101 | Chip, 100 ohm, 1/16W |
| R781 | 24872101 | Chip, 100 ohm, 1/16W |
| R782 | 24872101 | Chip, 100 ohm, 1/16W |
| R783 | 24872101 | Chip, 100 ohm, 1/16W |
| R786 | 24872472 | Chip, 4700 ohm, 1/16W |
| R787 | 24872472 | Chip, 4700 ohm, 1/16W |
| R815 | 24366102 | CF, 1k ohm |
| R816 | 24366102 | CF, 1k ohm |
| R817 | 24366102 | CF, 1k ohm |

| Location No. | Part No. | Description |
|---|---|---|
| R818 | 24366471 | CF, 470 ohm |
| R819 | 24366102 | CF, 1k ohm |
| R820 | 24327153 | MF, 15k ohm, ±1%, 1/4W |
| R821 | 24327123 | MF, 12k ohm, ±1%, 1/4W |
| R822 | 24327123 | MF, 12k ohm, ±1%, 1/4W |
| R823 | 24327123 | MF, 12k ohm, ±1%, 1/4W |
| R824 | 24366102 | CF, 1k ohm |
| R842 | 24366222 | CF, 2200 ohm |
| R843 | 24366103 | CF, 10k ohm |
| R861 | 24383473 | OMF, 47k ohm, 2W |
| R862 | 24381330 | OMF, 33 ohm, 1/2W |
| R864 | 24552102 | OMF, 1k ohm, 1/2W |
| R865 | 24552470 | OMF, 47 ohm, 1/2W |
| R867 | 24366563 | CF, 56k ohm |
| R868 | 24552560 | OMF, 56 ohm, 1/2W |
| R870 | 24381121 | OMF, 120 ohm, 1/2W |
| R871 | 24382680 | OMF, 68 ohm, 1W |
| R872 | 24377224 | CF, 220k ohm, 1W |
| R883 | 24381683 | OMF, 68k ohm, 1/2W |
| R884 | 24366102 | CF, 1k ohm |
| R891 | 24366152 | CF, 1500 ohm |
| R898 | 24002000 | CC, 3.9M ohm, ±10%, 1/2W |
| R900 | 24000906 | FR, 2.4 ohm, 2W |
| R901 | 24366101 | CF, 100 ohm |
| R903 | 24942102 | CC, 1k ohm, 1/2W |
| R904 | 24366102 | CF, 1k ohm |
| R905 | 24366470 | CF, 47 ohm |
| R906 | 24366471 | CF, 470 ohm |
| R908 | 24366330 | CF, 33 ohm |
| R909 | 24366101 | CF, 100 ohm |
| R911 | 24366101 | CF, 100 ohm |
| R913 | 24942102 | CC, 1k ohm, 1/2W |
| R914 | 24366102 | CF, 1k ohm |
| R915 | 24366750 | CF, 75 ohm |
| R916 | 24366471 | CF, 470 ohm |
| R918 | 24366330 | CF, 33 ohm |
| R919 | 24366391 | CF, 390 ohm |
| R921 | 24366101 | CF, 100 ohm |
| R923 | 24942102 | CC, 1k ohm, 1/2W |
| R924 | 24366102 | CF, 1k ohm |
| R925 | 24366101 | CF, 100 ohm |
| R926 | 24366471 | CF, 470 ohm |
| R927 | 24366102 | CF, 1k ohm |
| R928 | 24366330 | CF, 33 ohm |
| R931 | 24555153 | OMF, 15k ohm, 3W |
| R932 | 24555153 | OMF, 15k ohm, 3W |
| R940 | 24366102 | CF, 1k ohm |
| R941 | 24555153 | OMF, 15k ohm, 3W |
| R942 | 24555153 | OMF, 15k ohm, 3W |
| R949 | 24366470 | CF, 47 ohm |
| R950 | 24366101 | CF, 100 ohm |
| R951 | 24555153 | OMF, 15k ohm, 3W |
| R952 | 24555153 | OMF, 15k ohm, 3W |
| R953 | 24366470 | CF, 47 ohm |
| R954 | 24366102 | CF, 1k ohm |
| R955 | 24366151 | CF, 150 ohm |
| R956 | 24366271 | CF, 270 ohm |
| R958 | 24366821 | CF, 820 ohm |
| R959 | 24366390 | CF, 39 ohm |
| R960 | 24366560 | CF, 56 ohm |
| R961 | 24366821 | CF, 820 ohm |
| R962 | 24366391 | CF, 390 ohm |
| R963 | 24366222 | CF, 2200 ohm |
| R964 | 24366332 | CF, 3300 ohm |

| Location No. | Part No. | Description |
|---|---|---|
| R965 | 24366471 | CF, 470 ohm |
| R966 | 24366821 | CF, 820 ohm |
| R967 | 24366122 | CF, 1200 ohm |
| R968 | 24366680 | CF, 68 ohm |
| R969 | 24366103 | CF, 10k ohm |
| R970 | 24366222 | CF, 2200 ohm |
| R971 | 24367152 | CF, 1500 ohm, ±2% |
| R972 | 24367471 | CF, 470 ohm, ±2% |
| R973 | 24367681 | CF, 680 ohm, ±2% |
| R974 | 24367681 | CF, 680 ohm, ±2% |
| R975 | 24366242 | CF, 2400 ohm |
| R976 | 24367562 | CF, 5600 ohm, ±2% |
| R977 | 24367562 | CF, 5600 ohm, ±2% |
| R978 | 24367681 | CF, 680 ohm, ±2% |
| R980 | 24366272 | CF, 2700 ohm |
| R981 | 24366103 | CF, 10k ohm |
| R982 | 24366562 | CF, 5600 ohm |
| R983 | 24366562 | CF, 5600 ohm |
| R984 | 24366562 | CF, 5600 ohm |
| R986 | 24366102 | CF, 1k ohm |
| R987 | 24366822 | CF, 8200 ohm |
| R988 | 24366103 | CF, 10k ohm |
| R989 | 24366103 | CF, 10k ohm |
| R990 | 24366392 | CF, 3900 ohm |
| R991 | 24366562 | CF, 5600 ohm |
| R992 | 24366102 | CF, 1k ohm |
| R993 | 24366681 | CF, 680 ohm |
| R994 | 24366392 | CF, 3900 ohm |
| R995 | 24366102 | CF, 1k ohm |
| R996 | 24366103 | CF, 10k ohm |
| R997 | 24366472 | CF, 4700 ohm |
| R998 | 24366102 | CF, 1k ohm |
| R999 | 24366102 | CF, 1k ohm |
| R7707 | 24872472 | Chip, 4700 ohm, 1/16W |
| R7708 | 24872472 | Chip, 4700 ohm, 1/16W |
| R7710 | 24555680 | OMF, 68 ohm, 3W |
| R7711 | 24323229 | MF, 2.2 ohm, 2W |
| R7712 | 24872472 | Chip, 4700 ohm, 1/16W |
| R7713 | 24872472 | Chip, 4700 ohm, 1/16W |
| R7715 | 24555680 | OMF, 68 ohm, 3W |
| R7716 | 24323229 | MF, 2.2 ohm, 2W |
| R7717 | 24872472 | Chip, 4700 ohm, 1/16W |
| R7718 | 24872472 | Chip, 4700 ohm, 1/16W |
| R7720 | 24555680 | OMF, 68 ohm, 3W |
| R7721 | 24323229 | MF, 2.2 ohm, 2W |
| R7722 | 24872472 | Chip, 4700 ohm, 1/16W |
| R7723 | 24872472 | Chip, 4700 ohm, 1/16W |
| R7725 | 24555680 | OMF, 68 ohm, 3W |
| R7726 | 24323229 | MF, 2.2 ohm, 2W |
| R7727 | 24872472 | Chip, 4700 ohm, 1/16W |
| R7728 | 24872472 | Chip, 4700 ohm, 1/16W |
| R7730 | 24555680 | OMF, 68 ohm, 3W |
| R7731 | 24323229 | MF, 2.2 ohm, 2W |
| R7732 | 24872472 | Chip, 4700 ohm, 1/16W |
| R7733 | 24872472 | Chip, 4700 ohm, 1/16W |
| R7735 | 24555680 | OMF, 68 ohm, 3W |
| R7736 | 24323229 | MF, 2.2 ohm, 2W |
| R7766 | 24872223 | Chip, 22k ohm, 1/16W |
| R7767 | 24872153 | Chip, 15k ohm, 1/16W |
| R7773 | 24872224 | Chip, 220k ohm, 1/16W |
| R7775 | 24872273 | Chip, 27k ohm, 1/16W |
| R7776 | 24872472 | Chip, 4700 ohm, 1/16W |
| R7777 | 24872273 | Chip, 27k ohm, 1/16W |
| R7778 | 24872472 | Chip, 4700 ohm, 1/16W |

| Location No. | Part No. | Description |
|---|---|---|
| R7779 | 24872102 | Chip, 1k ohm, 1/16W |
| R7780 | 24872102 | Chip, 1k ohm, 1/16W |
| R7781 | 24872333 | Chip, 33k ohm, 1/16W |
| R7786 | 24872472 | Chip, 4700 ohm, 1/16W |
| R7787 | 24872472 | Chip, 4700 ohm, 1/16W |
| R7788 | 24382221 | OMF, 220 ohm, 1W |
| R7795 | 24872332 | Chip, 3300 ohm, 1/16W |
| R7796 | 24872332 | Chip, 3300 ohm, 1/16W |
| R7797 | 24872332 | Chip, 3300 ohm, 1/16W |
| R7798 | 24872221 | Chip, 220 ohm, 1/16W |
| RA01 | 24872102 | Chip, 1k ohm, 1/16W |
| RA02 | 24872101 | Chip, 100 ohm, 1/16W |
| RA03 | 24872101 | Chip, 100 ohm, 1/16W |
| RA04 | 24872102 | Chip, 1k ohm, 1/16W |
| RA05 | 24872102 | Chip, 1k ohm, 1/16W |
| RA06 | 24872102 | Chip, 1k ohm, 1/16W |
| RA07 | 24872102 | Chip, 1k ohm, 1/16W |
| RA09 | 24872103 | Chip, 10k ohm, 1/16W |
| RA10 | 24872103 | Chip, 10k ohm, 1/16W |
| RA11 | 24872102 | Chip, 1k ohm, 1/16W |
| RA12 | 24872102 | Chip, 1k ohm, 1/16W |
| RA13 | 24872102 | Chip, 1k ohm, 1/16W |
| RA15 | 24872102 | Chip, 1k ohm, 1/16W |
| RA16 | 24872102 | Chip, 1k ohm, 1/16W |
| RA17 | 24872102 | Chip, 1k ohm, 1/16W |
| RA18 | 24872103 | Chip, 10k ohm, 1/16W |
| RA26 | 24872101 | Chip, 100 ohm, 1/16W |
| RA27 | 24872101 | Chip, 100 ohm, 1/16W |
| RA29 | 24872102 | Chip, 1k ohm, 1/16W |
| RA30 | 24872102 | Chip, 1k ohm, 1/16W |
| RA31 | 24872102 | Chip, 1k ohm, 1/16W |
| RA33 | 24872102 | Chip, 1k ohm, 1/16W |
| RA34 | 24872102 | Chip, 1k ohm, 1/16W |
| RA35 | 24872102 | Chip, 1k ohm, 1/16W |
| RA39 | 24872102 | Chip, 1k ohm, 1/16W |
| RA46 | 24872332 | Chip, 3300 ohm, 1/16W |
| RA47 | 24872332 | Chip, 3300 ohm, 1/16W |
| RA48 | 24872332 | Chip, 3300 ohm, 1/16W |
| RA49 | 24872332 | Chip, 3300 ohm, 1/16W |
| RA50 | 24872682 | Chip, 6800 ohm, 1/16W |
| RA51 | 24872151 | Chip, 150 ohm, 1/16W |
| RA52 | 24872103 | Chip, 10k ohm, 1/16W |
| RA54 | 24872332 | Chip, 3300 ohm, 1/16W |
| RA55 | 24872102 | Chip, 1k ohm, 1/16W |
| RA56 | 24872102 | Chip, 1k ohm, 1/16W |
| RA59 | 24872101 | Chip, 100 ohm, 1/16W |
| RA60 | 24872101 | Chip, 100 ohm, 1/16W |
| RA71 | 24366683 | CF, 68k ohm |
| RA72 | 24366223 | CF, 22k ohm |
| RA72 | 24872332 | Chip, 3300 ohm, 1/16W |
| RA73 | 24366103 | CF, 10k ohm |
| RA73 | 24872332 | Chip, 3300 ohm, 1/16W |
| RA74 | 24872153 | Chip, 15k ohm, 1/16W |
| RA75 | 24872153 | Chip, 15k ohm, 1/16W |
| RA76 | 24366822 | CF, 8200 ohm |
| RA76 | 24872103 | Chip, 10k ohm, 1/16W |
| RA77 | 24366153 | CF, 15k ohm |
| RA77 | 24872103 | Chip, 10k ohm, 1/16W |
| RA78 | 24366273 | CF, 27k ohm |
| RA78 | 24872333 | Chip, 33k ohm, 1/16W |
| RA79 | 24366823 | CF, 82k ohm |
| RA79 | 24872333 | Chip, 33k ohm, 1/16W |
| RA80 | 24872101 | Chip, 100 ohm, 1/16W |
| RB01 | 24366271 | CF, 270 ohm |

| Location No. | Part No. | Description |
|---|---|---|
| RB03 | 24872101 | Chip, 100 ohm, 1/16W |
| RB04 | 24366103 | CF, 10k ohm |
| RB14 | 24872153 | Chip, 15k ohm, 1/16W |
| RB15 | 24366471 | CF, 470 ohm |
| RB15 | 24872153 | Chip, 15k ohm, 1/16W |
| RB16 | 24872332 | Chip, 3300 ohm, 1/16W |
| RB17 | 24872332 | Chip, 3300 ohm, 1/16W |
| RB19 | 24366470 | CF, 47 ohm |
| RB30 | 24366103 | CF, 10k ohm |
| RB41 | 24366273 | CF, 27k ohm |
| RB41 | 24366681 | CF, 680 ohm |
| RB42 | 24366153 | CF, 15k ohm |
| RB61 | 24872222 | Chip, 2200 ohm, 1/16W |
| RB62 | 24872103 | Chip, 10k ohm, 1/16W |
| RB63 | 24872472 | Chip, 4700 ohm, 1/16W |
| RB81 | 24872122 | Chip, 1200 ohm, 1/16W |
| RB82 | 24872123 | Chip, 12k ohm, 1/16W |
| RB83 | 24872123 | Chip, 12k ohm, 1/16W |
| RB84 | 24872562 | Chip, 5600 ohm, 1/16W |
| RB90 | 24872392 | Chip, 3900 ohm, 1/16W |
| RB91 | 24872473 | Chip, 47k ohm, 1/16W |
| RB92 | 24872271 | Chip, 270 ohm, 1/16W |
| RB93 | 24872271 | Chip, 270 ohm, 1/16W |
| RB94 | 24872222 | Chip, 2200 ohm, 1/16W |
| RB95 | 24872222 | Chip, 2200 ohm, 1/16W |
| RB96 | 24872273 | Chip, 27k ohm, 1/16W |
| RB97 | 24872273 | Chip, 27k ohm, 1/16W |
| RB98 | 24872102 | Chip, 1k ohm, 1/16W |
| RD09 | 24366101 | CF, 100 ohm |
| RD11 | 24366101 | CF, 100 ohm |
| RD13 | 24366222 | CF, 2200 ohm |
| RD14 | 24366103 | CF, 10k ohm |
| RD16 | 24366103 | CF, 10k ohm |
| RR08 | 24872332 | Chip, 3300 ohm, 1/16W |
| RR09 | 24872222 | Chip, 2200 ohm, 1/16W |
| RR10 | 24872102 | Chip, 1k ohm, 1/16W |
| RR12 | 24872151 | Chip, 150 ohm, 1/16W |
| RR13 | 24872151 | Chip, 150 ohm, 1/16W |
| RR14 | 24872151 | Chip, 150 ohm, 1/16W |
| RR15 | 24872151 | Chip, 150 ohm, 1/16W |
| RR16 | 24872151 | Chip, 150 ohm, 1/16W |
| RR17 | 24872151 | Chip, 150 ohm, 1/16W |
| RR18 | 24872332 | Chip, 3300 ohm, 1/16W |
| RR40 | 24872101 | Chip, 100 ohm, 1/16W |
| RR42 | 24872101 | Chip, 100 ohm, 1/16W |
| RR44 | 24872101 | Chip, 100 ohm, 1/16W |
| RR52 | 24872102 | Chip, 1k ohm, 1/16W |
| RR53 | 24872471 | Chip, 470 ohm, 1/16W |
| RR54 | 24872102 | Chip, 1k ohm, 1/16W |
| RR55 | 24872471 | Chip, 470 ohm, 1/16W |
| RR56 | 24872102 | Chip, 1k ohm, 1/16W |
| RR57 | 24872471 | Chip, 470 ohm, 1/16W |
| RR58 | 24872103 | Chip, 10k ohm, 1/16W |
| RR59 | 24872104 | Chip, 100k ohm, 1/16W |
| RR92 | 24872222 | Chip, 2200 ohm, 1/16W |
| RR99 | 24872102 | Chip, 1k ohm, 1/16W |
| RS02 | 24366472 | CF, 4700 ohm |
| RS04 | 24366102 | CF, 1k ohm |
| RS06 | 24366102 | CF, 1k ohm |
| RS07 | 24366103 | CF, 10k ohm |
| RS08 | 24366103 | CF, 10k ohm |
| RS09 | 24366102 | CF, 1k ohm |
| RS10 | 24366102 | CF, 1k ohm |
| RS12 | 24366103 | CF, 10k ohm |

| Location No. | Part No. | Description |
|---|---|---|
| RS21 | 24366104 | CF, 100k ohm |
| RS22 | 24366104 | CF, 100k ohm |
| RS25 | 24366223 | CF, 22k ohm |
| RS26 | 24366223 | CF, 22k ohm |
| RS27 | 24366471 | CF, 470 ohm |
| RS28 | 24366471 | CF, 470 ohm |
| RS29 | 24366104 | CF, 100k ohm |
| RS30 | 24366104 | CF, 100k ohm |
| RS31 | 24366103 | CF, 10k ohm |
| RS32 | 24366104 | CF, 100k ohm |
| RS33 | 24366222 | CF, 2200 ohm |
| RS34 | 24366222 | CF, 2200 ohm |
| RS35 | 24366103 | CF, 10k ohm |
| RS36 | 24366103 | CF, 10k ohm |
| RS37 | 24366101 | CF, 100 ohm |
| RS40 | 24366101 | CF, 100 ohm |
| RS42 | 24366101 | CF, 100 ohm |
| RS48 | 24366101 | CF, 100 ohm |
| RS49 | 24366103 | CF, 10k ohm |
| RS51 | 24366103 | CF, 10k ohm |
| RS52 | 24366103 | CF, 10k ohm |
| RV01 | 24366472 | CF, 4700 ohm (50A60/55A60/61A60) |
| RV03 | 24366101 | CF, 100 ohm |
| RV04 | 24366101 | CF, 100 ohm |
| RV10 | 24366100 | CF, 10 ohm |
| RV11 | 24366100 | CF, 10 ohm |
| RV12 | 24366100 | CF, 10 ohm |
| RV13 | 24366100 | CF, 10 ohm |
| RV14 | 24366100 | CF, 10 ohm |
| RV15 | 24366222 | CF, 2200 ohm |
| RV20 | 24366750 | CF, 75 ohm |
| RV21 | 24366750 | CF, 75 ohm |
| RV22 | 24366750 | CF, 75 ohm |
| RV23 | 24366332 | CF, 3300 ohm |
| RV24 | 24366750 | CF, 75 ohm |
| RV25 | 24366750 | CF, 75 ohm |
| RV26 | 24366750 | CF, 75 ohm |
| RV28 | 24366472 | CF, 4700 ohm |
| RV31 | 24366332 | CF, 3300 ohm |
| RV32 | 24366750 | CF, 75 ohm |
| RV33 | 24366680 | CF, 68 ohm |
| RV34 | 24366750 | CF, 75 ohm |
| RV40 | 24366223 | CF, 22k ohm |
| RV41 | 24366123 | CF, 12k ohm |
| RV42 | 24366561 | CF, 560 ohm |
| RV43 | 24366471 | CF, 470 ohm |
| RV44 | 24366471 | CF, 470 ohm |
| RV45 | 24366681 | CF, 680 ohm |
| RV46 | 24366102 | CF, 1k ohm |
| RV47 | 24366102 | CF, 1k ohm |
| RV48 | 24366102 | CF, 1k ohm |
| RV49 | 24366911 | CF, 910 ohm |
| RV60 | 24366682 | CF, 6800 ohm |
| RV63 | 24366102 | CF, 1k ohm |
| RV67 | 24366750 | CF, 75 ohm |
| RV74 | 24366680 | CF, 68 ohm |
| RV83 | 24366332 | CF, 3300 ohm |
| RV84 | 24366750 | CF, 75 ohm |
| RV85 | 24552181 | OMF, 180 ohm, 1/2W |
| RV89 | 24366750 | CF, 75 ohm |
| RV90 | 24366103 | CF, 10k ohm |
| RV91 | 24366302 | CF, 3k ohm |
| RV92 | 24366103 | CF, 10k ohm |

| Location No. | Part No. | Description |
|---|---|---|
| RV93 | 24366103 | CF, 10k ohm |
| RV94 | 24366392 | CF, 3900 ohm |
| RV95 | 24366123 | CF, 12k ohm |
| RV96 | 24366274 | CF, 270k ohm |
| RV97 | 24366331 | CF, 330 ohm |
| RV98 | 24366472 | CF, 4700 ohm |
| RW02 | 24366821 | CF, 820 ohm |
| RW09 | 24366563 | CF, 56k ohm |
| RW10 | 24872102 | Chip, 1k ohm, 1/16W |
| RW13 | 24366393 | CF, 39k ohm |
| RW14 | 24552121 | OMF, 120 ohm, 1/2W |
| RW14 | 24872101 | Chip, 100 ohm, 1/16W |
| RW15 | 24366223 | CF, 22k ohm |
| RW16 | 24366273 | CF, 27k ohm |
| RW16 | 24872101 | Chip, 100 ohm, 1/16W |
| RW17 | 24366333 | CF, 33k ohm |
| RW18 | 24366101 | CF, 100 ohm |
| RW19 | 24366100 | CF, 10 ohm |
| RW20 | 24366392 | CF, 3900 ohm |
| RW22 | 24366102 | CF, 1k ohm |
| RW23 | 24366471 | CF, 470 ohm |
| RW24 | 24366470 | CF, 47 ohm |
| RW25 | 24366182 | CF, 1800 ohm |
| RW30 | 24552100 | OMF, 10 ohm, 1/2W |
| RW30 | 24872102 | Chip, 1k ohm, 1/16W |
| RW31 | 24552331 | OMF, 330 ohm, 1/2W |
| RW32 | 24366820 | CF, 82 ohm |
| RW33 | 24366683 | CF, 68k ohm |
| RW34 | 24366820 | CF, 82 ohm |
| RW35 | 24366683 | CF, 68k ohm |
| RW36 | 24366330 | CF, 33 ohm |
| RW37 | 24366152 | CF, 1500 ohm |
| RW38 | 24366102 | CF, 1k ohm |
| RW39 | 24366152 | CF, 1500 ohm |
| RW40 | 24366330 | CF, 33 ohm |
| RW40 | 24872182 | Chip, 1800 ohm, 1/16W |
| RW41 | 24366279 | CF, 2.7 ohm |
| RW42 | 24366279 | CF, 2.7 ohm |
| RW43 | 24554221 | OMF, 220 ohm, 2W |
| RW44 | 24366122 | CF, 1200 ohm |
| RW45 | 24366122 | CF, 1200 ohm |
| RW51 | 24366683 | CF, 68k ohm |
| RW52 | 24366473 | CF, 47k ohm |
| RW53 | 24366333 | CF, 33k ohm |
| RW54 | 24366153 | CF, 15k ohm |
| RW55 | 24366102 | CF, 1k ohm |
| RW57 | 24366222 | CF, 2200 ohm |
| RW68 | 24366333 | CF, 33k ohm |
| RW69 | 24366223 | CF, 22k ohm |
| RW74 | 24366471 | CF, 470 ohm |
| RW76 | 24366561 | CF, 560 ohm |
| RW77 | 24366561 | CF, 560 ohm |
| RW78 | 24366681 | CF, 680 ohm |
| RW91 | 24366102 | CF, 1k ohm |
| RW92 | 24366101 | CF, 100 ohm |
| RW93 | 24366101 | CF, 100 ohm |
| RW94 | 24366101 | CF, 100 ohm |
| RY01 | 24872103 | Chip, 10k ohm, 1/16W |
| RY80 | 24366331 | CF, 330 ohm |
| RY81 | 24366101 | CF, 100 ohm |
| RY82 | 24366102 | CF, 1k ohm |
| RY87 | 24366100 | CF, 10 ohm |
| RZ01 | 24872102 | Chip, 1k ohm, 1/16W |
| RZ02 | 24872102 | Chip, 1k ohm, 1/16W |

| Location No. | Part No. | Description |
|---|---|---|
| RZ03 | 24872332 | Chip, 3300 ohm, 1/16W |
| RZ04 | 24872122 | Chip, 1200 ohm, 1/16W |
| RZ05 | 24872471 | Chip, 470 ohm, 1/16W |
| RZ06 | 24872821 | Chip, 820 ohm, 1/16W |
| RZ08 | 24872122 | Chip, 1200 ohm, 1/16W |
| RZ09 | 24872101 | Chip, 100 ohm, 1/16W |
| RZ10 | 24872471 | Chip, 470 ohm, 1/16W |
| RZ12 | 24872332 | Chip, 3300 ohm, 1/16W |
| RZ13 | 24872122 | Chip, 1200 ohm, 1/16W |
| RZ14 | 24872821 | Chip, 820 ohm, 1/16W |
| RZ15 | 24872821 | Chip, 820 ohm, 1/16W |
| RZ17 | 24872471 | Chip, 470 ohm, 1/16W |
| RZ18 | 24872122 | Chip, 1200 ohm, 1/16W |
| RZ19 | 24872332 | Chip, 3300 ohm, 1/16W |
| RZ20 | 24872101 | Chip, 100 ohm, 1/16W |
| RZ22 | 24872471 | Chip, 470 ohm, 1/16W |
| RZ29 | 24872331 | Chip, 330 ohm, 1/16W |
| RZ30 | 24872331 | Chip, 330 ohm, 1/16W |

## COILS & TRANSFORMERS

| | | |
|---|---|---|
| L101 | 23289845 | Coil, Peaking, TRF4680AT |
| L111 | 23289845 | Coil, Peaking, TRF4680AT (50A60/55A60/61A60) |
| L115 | 23103852 | Coil, Filter, TEM2028AH (50A60/55A60/61A60) |
| L121 | 23238562 | Coil, Peaking, TRF4109AJ |
| L122 | 23238562 | Coil, Peaking, TRF4109AJ |
| L301 | 23237975 | Coil, Peaking, TRF4101AC |
| L302 | 23248073 | Coil, Choke, TLN3299D |
| L303 | 23248073 | Coil, Choke, TLN3299D |
| L304 | 23103859 | Coil (Ferrite Bead), TEM2011 |
| L400 | 23289840 | Coil, Peaking, TRF4100AT |
| L401 | 23103775 | Coil (Ferrite Bead), TEM2014 |
| L402 | 23248243 | Coil, Choke, TLN3496AH |
| ⚠L403 | 23233977 | Coil, Linearity, TLN2203AG |
| L404 | 23248242 | Coil, Choke, TLN3495AH |
| L405 | 23221076 | Coil, Choke, TLN1015R |
| L406 | 23289560 | Coil, Peaking, TRF4560AF |
| ⚠L408 | 23248244 | Coil, Choke, TLN3497AH |
| L409 | 23103775 | Coil (Ferrite Bead), TEM2014 |
| ⚠L462 | 23231135 | Deflection Yoke, TDY707AS(R) |
| ⚠L463 | 23231135 | Deflection Yoke, TDY707AS(R) |
| ⚠L464 | 23231135 | Deflection Yoke, TDY707AS(R) |
| L472 | 23102457 | Magnet, MAG-1102 |
| L473 | 23102457 | Magnet, MAG-1102 |
| L474 | 23102457 | Magnet, MAG-1102 |
| L481 | 23237975 | Coil, Peaking, TRF4101AC |
| L501 | 23289853 | Coil, Peaking, TRF4120AT |
| L502 | 23289853 | Coil, Peaking, TRF4120AT |
| L503 | 23289853 | Coil, Peaking, TRF4120AT |
| L701 | 23238562 | Coil, Peaking, TRF4109AJ |
| L702 | 23238562 | Coil, Peaking, TRF4109AJ |
| L707 | 23238562 | Coil, Peaking, TRF4109AJ |
| L708 | 23238562 | Coil, Peaking, TRF4109AJ |
| L709 | 23238562 | Coil, Peaking, TRF4109AJ |
| L710 | 23238562 | Coil, Peaking, TRF4109AJ |
| L711 | 23238562 | Coil, Peaking, TRF4109AJ |
| L712 | 23238562 | Coil, Peaking, TRF4109AJ |
| L713 | 23238562 | Coil, Peaking, TRF4109AJ |
| L714 | 23238562 | Coil, Peaking, TRF4109AJ |
| L720 | 23289102 | Coil, Peaking, TRF4102AJ |
| L721 | 23237805 | Coil, Peaking, TRF4222 |
| L722 | 23289102 | Coil, Peaking, TRF4102AJ |
| L723 | 23237805 | Coil, Peaking, TRF4222 |
| L724 | 23289102 | Coil, Peaking, TRF4102AJ |
| L725 | 23237805 | Coil, Peaking, TRF4222 |
| L726 | 23289102 | Coil, Peaking, TRF4102AJ |
| L727 | 23237805 | Coil, Peaking, TRF4222 |
| L728 | 23289102 | Coil, Peaking, TRF4102AJ |
| L729 | 23237805 | Coil, Peaking, TRF4222 |
| L730 | 23289102 | Coil, Peaking, TRF4102AJ |
| L731 | 23237805 | Coil, Peaking, TRF4222 |
| L737 | 23289560 | Coil, Peaking, TRF4560AF |
| L738 | 23289560 | Coil, Peaking, TRF4560AF |
| L739 | 23289560 | Coil, Peaking, TRF4560AF |
| L740 | 23289560 | Coil, Peaking, TRF4560AF |
| L742 | 23103866 | Chip (Ferrite Bead), TEM2105T |
| L745 | 23103866 | Chip (Ferrite Bead), TEM2105T |
| L746 | 23103866 | Chip (Ferrite Bead), TEM2105T |
| L748 | 23103866 | Chip (Ferrite Bead), TEM2105T |
| L749 | 23103866 | Chip (Ferrite Bead), TEM2105T |
| L750 | 23103864 | Coil (Ferrite Bead), TEM2103T |
| L751 | 23103864 | Coil (Ferrite Bead), TEM2103T |
| L752 | 23103795 | Chip, Impeder, MMZ2012S301A |
| L851 | 23103880 | Coil (Ferrite Bead), TEM2011Y |
| L852 | 23103880 | Coil (Ferrite Bead), TEM2011Y |
| L853 | 23248073 | Coil, Choke, TLN3299D |
| L854 | 23248073 | Coil, Choke, TLN3299D |
| L861 | 23103880 | Coil (Ferrite Bead), TEM2011Y |
| L862 | 23103937 | Coil (Ferrite Bead), TEM2004 |
| L881 | 23103880 | Coil (Ferrite Bead), TEM2011Y |
| L882 | 23103880 | Coil (Ferrite Bead), TEM2011Y |
| L885 | 23248073 | Coil, Choke, TLN3299D |
| L888 | 23103880 | Coil (Ferrite Bead), TEM2011Y |
| L889 | 23103880 | Coil (Ferrite Bead), TEM2011Y |
| L891 | 23103880 | Coil (Ferrite Bead), TEM2011Y |
| L892 | 23103880 | Coil (Ferrite Bead), TEM2011Y |
| L893 | 23103880 | Coil (Ferrite Bead), TEM2011Y |
| L894 | 23103880 | Coil (Ferrite Bead), TEM2011Y |
| L895 | 23248073 | Coil, Choke, TLN3299D |
| L896 | 23248073 | Coil, Choke, TLN3299D |
| L897 | 23248087 | Coil, Choke, TLN3312D |
| L898 | 23248087 | Coil, Choke, TLN3312D |
| L961 | 23289100 | Coil, Peaking, TRF4100AF |
| L962 | 23237991 | Coil, Peaking, TRF4479AC |
| L963 | 23237975 | Coil, Peaking, TRF4101AC |
| L7701 | 23103859 | Coil (Ferrite Bead), TEM2011 |
| L7702 | 23103859 | Coil (Ferrite Bead), TEM2011 |
| L7703 | 23103859 | Coil (Ferrite Bead), TEM2011 |
| L7704 | 23103859 | Coil (Ferrite Bead), TEM2011 |
| L7705 | 23103859 | Coil (Ferrite Bead), TEM2011 |
| L7706 | 23103859 | Coil (Ferrite Bead), TEM2011 |
| LA22 | 23245830 | Chip, Inductor, TRF4100CB |
| LA49 | 23245830 | Chip, Inductor, TRF4100CB |
| LV01 | 23103852 | Coil, Filter, TEM2028AH |
| LV02 | 23103852 | Coil, Filter, TEM2028AH |
| LV05 | 23289560 | Coil, Peaking, TRF4560AF |
| LV06 | 23289560 | Coil, Peaking, TRF4560AF |
| LV07 | 23238719 | Coil, Peaking, TRF4399AJ |
| LV11 | 23289100 | Coil, Peaking, TRF4100AF |
| LV13 | 23289100 | Coil, Peaking, TRF4100AF |
| LV14 | 23289100 | Coil, Peaking, TRF4100AF |
| LV20 | 23238705 | Coil, Peaking, TRF4560AJ |
| LV41 | 23289470 | Coil, Peaking, TRF4470AF |
| LW01 | 23103845 | Coil, TEM2030AY |
| LW02 | 23261974 | Coil, Choke, HC5-035 |
| LW04 | 23103859 | Coil (Ferrite Bead), TEM2011 |

| Location No. | Part No. | Description |
|---|---|---|
| LW04 | 23245834 | Chip, Inductor, TRF4220CB |
| LW05 | 23103859 | Coil (Ferrite Bead), TEM2011 |
| LW07 | 23289220 | Coil, Peaking, TRF4220AF |
| LY01 | 23245832 | Chip, Inductor, TRF4150CB |
| LY22 | 23103852 | Coil, Filter, TEM2028AH |
| LZ01 | 23238710 | Coil, Peaking, TRF4220AJ |
| LZ02 | 23238714 | Coil, Peaking, TRF4100AJ |
| LZ03 | 23238714 | Coil, Peaking, TRF4100AJ |
| LZ04 | 23238714 | Coil, Peaking, TRF4100AJ |
| LZ05 | 23238714 | Coil, Peaking, TRF4100AJ |
| LZ08 | 23238707 | Coil, Peaking, TRF4390AJ |
| LZ11 | 23238710 | Coil, Peaking, TRF4220AJ |
| LZ12 | 23238710 | Coil, Peaking, TRF4220AJ |
| T401 | 23224367 | Transformer, Horiz. Drive, TLN1098AH |
| T403 | 23224364 | Transformer, Focus, TLN2168AH |
| ⚠T461 | 23236623 | Transformer, Flyback, TFB3086AD |
| ⚠T461A | 23192940 | Anode Cap, TCCP5157 |
| T801 | 23211698 | Line Filter, TRF3218AK |
| T802 | 23211729 | Line Filter, TRF3232AQ |
| T840 | 23217233 | Transformer, Converter, TPW1547AZ |
| T862 | 23217463 | Transformer, Converter, TPW3447AS |

## SEMICONDUCTORS

| | | |
|---|---|---|
| Q151 | A6541130 | Transistor, 2SA1162-Y (50A60/55A60/61A60) |
| Q152 | A6335470 | Transistor, 2SC2712-Y (50A60/55A60/61A60) |
| Q201 | A6335470 | Transistor, 2SC2712-Y (50A60/55A60/61A60) |
| Q202 | A6335470 | Transistor, 2SC2712-Y |
| Q203 | A6361770 | Transistor, 2SC3437-Y |
| Q261 | A6335470 | Transistor, 2SC2712-Y |
| Q262 | A6541130 | Transistor, 2SA1162-Y |
| Q263 | A6541130 | Transistor, 2SA1162-Y |
| Q301 | 23319787 | IC, LA7833S |
| Q301B | 70391355 | Screw, BITTB3X8 SZN |
| Q302 | B0384625 | IC, TA8859CP |
| Q303 | A6335470 | Transistor, 2SC2712-Y |
| Q304 | B0351525 | IC, TA75902FB |
| Q305 | A6541130 | Transistor, 2SA1162-Y |
| Q306 | B0351525 | IC, TA75902FB |
| Q308 | A6335470 | Transistor, 2SC2712-Y |
| Q309 | A6541130 | Transistor, 2SA1162-Y |
| Q310 | A6335470 | Transistor, 2SC2712-Y |
| Q401 | A6330069 | Transistor, 2CS2482 FA-1 |
| Q402 | A6734590 | Transistor, 2SC752(G)TM-Y |
| Q403 | A6073390 | Transistor, 2SK2920 |
| Q404 | A6873777 | Transistor, 2SD2553 |
| Q404B | 72471082 | Screw, BRDT2W3X10 SZN |
| Q405 | A6734590 | Transistor, 2SC752(G)TM-Y |
| Q406 | 23314548 | Transistor, 2SC4256 (50A60/55A60/61A60) |
| Q407 | B0347500 | IC, TA75358P |
| Q408 | 23314962 | Transistor, KTA1266 Y |
| Q409 | 23314965 | Transistor, KTC3198 Y |
| Q430 | 23314965 | Transistor, KTC3198 Y |
| Q481 | B0347235 | IC, TA75339AP |
| Q492 | A6547305 | Transistor, 2SA1321(FA,C) |
| Q501 | B0385677 | IC, TA1222BN |
| Q502 | A6335470 | Transistor, 2SC2712-Y |
| Q503 | A6541130 | Transistor, 2SA1162-Y |
| Q520 | A6541130 | Transistor, 2SA1162-Y |
| Q521 | A6541130 | Transistor, 2SA1162-Y |
| Q522 | A6541130 | Transistor, 2SA1162-Y |
| Q523 | A6335470 | Transistor, 2SC2712-Y |
| Q524 | A6004010 | Transistor, RN1401 |
| Q525 | A6004010 | Transistor, RN1401 |
| Q526 | A6004010 | Transistor, RN1401 |
| Q601 | B0376885 | IC, TA8213K |
| Q612 | A6541130 | Transistor, 2SA1162-Y |
| Q621 | 23000381 | IC, CXA2021S |
| Q622 | B01A0119 | IC, TA1304F(EL) |
| Q661 | A6359870 | Transistor, 2SC3326-B |
| Q662 | A6359870 | Transistor, 2SC3326-B |
| Q663 | 23906596 | IC, BA4558 |
| Q664 | A6014040 | Transistor, RN2404 |
| Q681 | A6359870 | Transistor, 2SC3326-B |
| Q682 | A6359870 | Transistor, 2SC3326-B |
| Q701 | B01B4088 | IC, TC190C060AF- |
| Q702 | 23904743 | IC, LC89066M |
| Q703 | 23905014 | IC, LC78816M |
| Q704 | 23905014 | IC, LC78816M |
| Q705 | 23905014 | IC, LC78816M |
| Q707 | 23905013 | IC, TLC29321PW |
| Q709 | 23906908 | IC, MC33078DR2 |
| Q711 | 23904665 | IC, NM24C04EN |
| Q715 | 23906908 | IC, MC33078DR2 |
| Q717 | 23906908 | IC, MC33078DR2 |
| Q719 | 23906908 | IC, MC33078DR2 |
| Q751 | 23905094 | IC, STR392-110 |
| Q752 | 23905094 | IC, STR392-110 |
| Q754 | 23904521 | IC, AN7805 |
| Q754B | 70391356 | Screw, BITTB3X10 SZN |
| Q755 | 23904525 | IC, AN7809 |
| Q755B | 70391356 | Screw, BITTB3X10 SZN |
| Q764 | B0485884 | IC, TC74HC14AF |
| Q765 | A6335470 | Transistor, 2SC2712-Y |
| Q766 | A6335470 | Transistor, 2SC2712-Y |
| Q767 | B0488448 | IC, TC74HC4066AF |
| Q801 | 23906540 | IC, STR-Z4267 |
| Q819 | 23314965 | Transistor, KTC3198 Y |
| Q830 | 23905977 | IC, PQ09RD11 |
| Q830B | 70391356 | Screw, BITTB3X10 SZN |
| Q831 | 23905976 | IC, PQ05RD11 |
| Q831B | 70391356 | Screw, BITTB3X10 SZN |
| Q840 | 23318299 | IC, L78MR05 |
| Q841 | 70129444 | IC, PST994D |
| Q843 | 23314965 | Transistor, KTC3198 Y |
| Q862 | A8643112 | Photo Coupler, TLP621(GRL-L |
| ⚠Q863 | 23319305 | IC, SE140N, LF4 |
| Q901 | A6372621 | Transistor, 2SC5360 |
| Q902 | A6317440 | Transistor, 2SC1815-Y |
| Q911 | A6372621 | Transistor, 2SC5360 |
| Q913 | A6317440 | Transistor, 2SC1815-Y |
| Q921 | A6372621 | Transistor, 2SC5360 |
| Q922 | A6317440 | Transistor, 2SC1815-Y |
| Q961 | A6317440 | Transistor, 2SC1815-Y |
| Q962 | A6509140 | Transistor, 2SA562TM-Y |
| Q963 | A6317440 | Transistor, 2SC1815-Y |
| Q964 | A6534040 | Transistor, 2SA1015-Y |
| Q965 | A6317440 | Transistor, 2SC1815-Y |
| Q966 | A6534040 | Transistor, 2SA1015-Y |
| Q971 | A6317440 | Transistor, 2SC1815-Y |

| Location No. | Part No. | Description |
|---|---|---|
| Q972 | A6317440 | Transistor, 2SC1815-Y |
| Q973 | A6317440 | Transistor, 2SC1815-Y |
| Q974 | A6317440 | Transistor, 2SC1815-Y |
| Q975 | A6317440 | Transistor, 2SC1815-Y |
| Q976 | A6317440 | Transistor, 2SC1815-Y |
| Q981 | A6534040 | Transistor, 2SA1015-Y |
| Q982 | A6534040 | Transistor, 2SA1015-Y |
| Q983 | A6317440 | Transistor, 2SC1815-Y |
| Q984 | A6534040 | Transistor, 2SA1015-Y |
| QA01 | 23000374 | IC, MN102L35GF |
| QA02 | 23905666 | IC, AT24C1610PC |
| QA71 | A6541130 | Transistor, 2SA1162-Y |
| QB01 | 23114528 | Transistor, 2SC1740S, Q |
| QB03 | A6004050 | Transistor, RN1405 |
| QB14 | A6541130 | Transistor, 2SA1162-Y |
| QB30 | 23314965 | Transistor, KTC3198 Y |
| QB61 | A6361770 | Transistor, 2SC3437-Y |
| QB81 | A6359870 | Transistor, 2SC3326-B |
| QB82 | A6359870 | Transistor, 2SC3326-B |
| QB83 | A6541130 | Transistor, 2SA1162-Y |
| QB84 | A6335470 | Transistor, 2SC2712-Y |
| QB85 | A6541130 | Transistor, 2SA1162-Y |
| QB86 | A6541130 | Transistor, 2SA1162-Y |
| QB87 | A6541130 | Transistor, 2SA1162-Y |
| QB88 | A6541130 | Transistor, 2SA1162-Y |
| QB92 | A6335470 | Transistor, 2SC2712-Y |
| QD01 | B0377277 | IC, TA8173AP |
| QR02 | A6335470 | Transistor, 2SC2712-Y |
| QR14 | A6541130 | Transistor, 2SA1162-Y |
| QR15 | A6541130 | Transistor, 2SA1162-Y |
| QR16 | A6541130 | Transistor, 2SA1162-Y |
| QR17 | 23318981 | IC, MC14053BFEL |
| QS01 | A6342200 | Transistor, 2CS2878-A |
| QS11 | A6342200 | Transistor, 2CS2878-A |
| QS12 | A6012040 | Transistor, RN2204 |
| QS13 | 23314965 | Transistor, KTC3198 Y |
| QS14 | 23314965 | Transistor, KTC3198 Y |
| QV01 | B0384761 | IC, TA8851CN |
| QV20 | A6002040 | Transistor, RN1204 |
| QV21 | 23114528 | Transistor, 2SC1740S, Q |
| QV22 | 23114530 | Transistor, 2SA933S-Q |
| QV23 | 23114530 | Transistor, 2SA933S-Q |
| QV40 | 23114528 | Transistor, 2SC1740S, Q |
| QV41 | 23114528 | Transistor, 2SC1740S, Q |
| QV42 | 23114530 | Transistor, 2SA933S-Q |
| QV43 | 23114530 | Transistor, 2SA933S-Q |
| QV48 | 23114528 | Transistor, 2SC1740S, Q |
| QW01 | 23318981 | IC, MC14053BFEL |
| QW05 | A6335470 | Transistor, 2SC2712-Y |
| QW06 | A6317440 | Transistor, 2SC1815-Y |
| QW07 | A6734590 | Transistor, 2SC752(G)TM-Y |
| QW09 | 23114528 | Transistor, 2SC1740S, Q |
| QW10 | 23114530 | Transistor, 2SA933S-Q |
| QW11 | A6335470 | Transistor, 2SC2712-Y |
| QW11 | A6550640 | Transistor, 2SA1837 |
| QW12 | A6369650 | Transistor, 2SC4793 |
| QW17 | A6004010 | Transistor, RN1401 |
| QW19 | A6317440 | Transistor, 2SC1815-Y |
| QW20 | A6317440 | Transistor, 2SC1815-Y |
| QW52 | 23114528 | Transistor, 2SC1740S, Q |
| QW53 | 23114528 | Transistor, 2SC1740S, Q |
| QW54 | 23114528 | Transistor, 2SC1740S, Q |
| QW60 | 23114530 | Transistor, 2SA933S-Q |
| QW68 | 23114528 | Transistor, 2SC1740S, Q |

| Location No. | Part No. | Description |
|---|---|---|
| QY26 | 23114528 | Transistor, 2SC1740S, Q |
| QZ01 | B0410895 | IC, TC90A49P |
| QZ02 | A6541130 | Transistor, 2SA1162-Y |
| QZ03 | A6541130 | Transistor, 2SA1162-Y |
| QZ04 | A6541130 | Transistor, 2SA1162-Y |
| QZ05 | A6335470 | Transistor, 2SC2712-Y |
| QZ06 | A6541130 | Transistor, 2SA1162-Y |
| QZ07 | A6541130 | Transistor, 2SA1162-Y |
| QZ08 | A6335470 | Transistor, 2SC2712-Y |
| D101 | 23316756 | Diode, Zener, MTZJ33D |
| D201 | 23118041 | Diode, MA111-(TX) |
| D215 | 23118041 | Diode, MA111-(TX) |
| D216 | 23118041 | Diode, MA111-(TX) |
| D217 | 23118041 | Diode, MA111-(TX) |
| D218 | 23118041 | Diode, MA111-(TX) |
| D219 | 23118041 | Diode, MA111-(TX) |
| D220 | 23118041 | Diode, MA111-(TX) |
| D221 | 23118041 | Diode, MA111-(TX) |
| D222 | 23118041 | Diode, MA111-(TX) |
| D223 | 23118041 | Diode, MA111-(TX) |
| D230 | 23316753 | Diode, Zener, MTZJ33A |
| D301 | 23316575 | Diode, Zener, MA8062-H, TX |
| D302 | 23118094 | Diode, EU2A, LF-F10 |
| D303 | 23316610 | Diode, Zener, MA8180-M, TX |
| D304 | 23316794 | Diode, SC570ALFE2 |
| D305 | 23118822 | Diode, ERB12-02 |
| D306 | 23118822 | Diode, ERB12-02 |
| D307 | 23118041 | Diode, MA111-(TX) |
| D310 | 23118041 | Diode, MA111-(TX) |
| D311 | 23118041 | Diode, MA111-(TX) |
| D320 | 23316576 | Diode, Zener, MA8068-L, TX |
| D336 | 23316583 | Diode, Zener, MA8039-H, TX |
| D401 | 23118094 | Diode, EU2A, LF-F10 |
| D402 | 23118094 | Diode, EU2A, LF-F10 |
| D403 | 23316254 | Diode, ERC06-15L |
| D404 | 23316969 | Diode, ERD29-06J |
| D405 | 23316254 | Diode, ERC06-15L |
| D406 | 23118094 | Diode, EU2A, LF-F10 |
| D407 | 23118707 | Diode, RP 1H, LF-C1 (50A60/55A60/61A60) |
| D408 | A7978850 | Diode, S5295G |
| D412 | 23118094 | Diode, EU2A, LF-F10 |
| D413 | 23118707 | Diode, RP 1H, LF-C1 (50A60/55A60/61A60) |
| D415 | 23316731 | Diode, Zener, MTZJ18B |
| D421 | 23118041 | Diode, MA111-(TX) |
| D422 | 23118041 | Diode, MA111-(TX) |
| D430 | 23316594 | Diode, Zener, MA8110-M, TX |
| D431 | 23118041 | Diode, MA111-(TX) |
| D481 | 23118859 | Diode, 1SS133 |
| ⚠D482 | 23115774 | Diode, Zener, RD6.2E(4) |
| D490 | 23118859 | Diode, 1SS133 |
| D491 | 23316758 | Diode, Zener, MTZJ36B |
| D512 | 23118041 | Diode, MA111-(TX) |
| D513 | 23316587 | Diode, Zener, MA8091-L, TX |
| D531 | 23316573 | Diode, Zener, MA8062-L, TX |
| D532 | 23118822 | Diode, ERB12-02 |
| D601 | 23118041 | Diode, MA111-(TX) |
| D602 | 23118041 | Diode, MA111-(TX) |
| D603 | 23118041 | Diode, MA111-(TX) |
| D604 | 23118041 | Diode, MA111-(TX) |
| D607 | 23316616 | Diode, Zener, MA8220-M, TX |
| D608 | 23316616 | Diode, Zener, MA8220-M, TX |
| D611 | 23118041 | Diode, MA111-(TX) |

| Location No. | Part No. | Description |
|---|---|---|
| D661 | 23316570 | Diode, Zener, MA8056-L, TX |
| D701 | 23115537 | Diode, 1SS131 |
| D702 | 23115537 | Diode, 1SS131 |
| D703 | 23115537 | Diode, 1SS131 |
| D704 | 23115537 | Diode, 1SS131 |
| D705 | 23316675 | Diode, Zener, MTZJ6.2B |
| D706 | 23316675 | Diode, Zener, MTZJ6.2B |
| D707 | 23316675 | Diode, Zener, MTZJ6.2B |
| D801 | 23357041 | Diode, LN6SB60-F05 |
| D819 | A7801205 | SCR, SF0R3G42(N,G5H1) |
| D820 | 23316757 | Diode, Zener, MTZJ36A |
| D821 | 23118859 | Diode, 1SS133 |
| D840 | 23316962 | Diode, S1WBA20 4101 |
| D845 | 23118859 | Diode, 1SS133 |
| D851 | 23357215 | Diode, D4SBS6 |
| D862 | 23118094 | Diode, EU2A, LF-F10 |
| ⚠D863 | 23316689 | Diode, Zener, MTZJ10A |
| D864 | 23118094 | Diode, EU2A, LF-F10 |
| D873 | 23316747 | Diode, Zener, MTZJ27C |
| D875 | 23316688 | Diode, Zener, MTZJ9.1C |
| D876 | 23316747 | Diode, Zener, MTZJ27C |
| D877 | 23316747 | Diode, Zener, MTZJ27C |
| D878 | 23316686 | Diode, Zener, MTZJ9.1A |
| D881 | 23118859 | Diode, 1SS133 |
| D884 | 23357217 | Diode, D4SBL40 |
| D885 | 23357216 | Diode, D4SBL20U |
| D891 | 23357214 | Diode, D4SBS4 |
| D892 | 23357042 | Diode, FMX-12S(023 |
| D899 | 24000948 | Varistor, TNR15G391K |
| D901 | 23118859 | Diode, 1SS133 |
| D902 | 23118859 | Diode, 1SS133 |
| D911 | 23118859 | Diode, 1SS133 |
| D912 | 23118859 | Diode, 1SS133 |
| D921 | 23118859 | Diode, 1SS133 |
| D922 | 23118859 | Diode, 1SS133 |
| D924 | 23118859 | Diode, 1SS133 |
| D925 | 23118859 | Diode, 1SS133 |
| D961 | 23118859 | Diode, 1SS133 |
| D965 | 23118859 | Diode, 1SS133 |
| D966 | 23118859 | Diode, 1SS133 |
| D975 | 23118859 | Diode, 1SS133 |
| D7703 | 23316675 | Diode, Zener, MTZJ6.2B |
| D7705 | 23118041 | Diode, MA111-(TX) |
| D7706 | 23118041 | Diode, MA111-(TX) |
| D7707 | 23118041 | Diode, MA111-(TX) |
| D7708 | 23118041 | Diode, MA111-(TX) |
| D7709 | 23316675 | Diode, Zener, MTZJ6.2B |
| D7710 | 23316716 | Diode, Zener, MTZJ11B |
| D7711 | 23316687 | Diode, Zener, MTZJ9.1B |
| D7712 | 23118041 | Diode, MA111-(TX) |
| D7713 | 23118041 | Diode, MA111-(TX) |
| D7717 | 23316675 | Diode, Zener, MTZJ6.2B |
| D7718 | 23316675 | Diode, Zener, MTZJ6.2B |
| D7719 | 23316675 | Diode, Zener, MTZJ6.2B |
| DA02 | 23316574 | Diode, Zener, MA8062-M, TX |
| DA11 | 23118859 | Diode, 1SS133 |
| DA34 | 23118041 | Diode, MA111-(TX) |
| DA43 | 23118041 | Diode, MA111-(TX) |
| DA44 | 23118041 | Diode, MA111-(TX) |
| DA45 | 23118041 | Diode, MA111-(TX) |
| DA46 | 23118041 | Diode, MA111-(TX) |
| DB01 | 23358501 | Diode (LED), SCL003URC5F |
| DB13 | 23358522 | Diode (LED), SIR-56SB3F |
| DB30 | 23118859 | Diode, 1SS133 |

| Location No. | Part No. | Description |
|---|---|---|
| DV01 | 23316686 | Diode, Zener, MTZJ9.1A |
| DV02 | 23316686 | Diode, Zener, MTZJ9.1A |
| DV03 | 23316686 | Diode, Zener, MTZJ9.1A |
| DV07 | 23316686 | Diode, Zener, MTZJ9.1A |
| DV08 | 23316686 | Diode, Zener, MTZJ9.1A |
| DV09 | 23316686 | Diode, Zener, MTZJ9.1A |
| DV11 | 23316686 | Diode, Zener, MTZJ9.1A |
| DV12 | 23316686 | Diode, Zener, MTZJ9.1A |
| DV13 | 23316686 | Diode, Zener, MTZJ9.1A |
| DV17 | 23316686 | Diode, Zener, MTZJ9.1A |
| DV25 | 23118859 | Diode, 1SS133 |
| DW04 | 23118859 | Diode, 1SS133 |
| DW05 | 23118859 | Diode, 1SS133 |
| DW21 | 23118859 | Diode, 1SS133 |

## MISCELLANEOUS

| | | |
|---|---|---|
| B224 | 23035412 | Screw, BTB 4X12 SZN |
| B225 | 23035412 | Screw, BTB 4X12 SZN |
| B230 | 23037312 | Screw, BTBW 3X12 SZN |
| B233 | 23035412 | Screw, BTB 4X12 SZN |
| B234 | 23035412 | Screw, BTB 4X12 SZN |
| B235 | 23035310 | Screw, BTB 3X8 SZN |
| BB30 | 23903022 | Socket, 8P |
| BB31 | 23903022 | Socket, 8P |
| BB300 | 23368627 | Plug, 8P |
| F470 | 23144906 | Fuse, 1.25A, 125V |
| F470A | 23165433 | Holder, Fuse |
| F801 | 23144481 | Fuse, 7.0A, 125V |
| F801A | 23165433 | Holder, Fuse |
| F850 | 23144893 | Fuse, 3.15, 125V |
| F850A | 23165433 | Holder, Fuse |
| F851 | 23144893 | Fuse, 3.15, 125V |
| F851A | 23165433 | Holder, Fuse |
| F860 | 23144511 | Fuse, 4.0A, 125V |
| F889 | 23144893 | Fuse, 3.15, 125V |
| F889A | 23165433 | Holder, Fuse |
| F890 | 23144897 | Fuse, 2.0A, 125V |
| F890A | 23165433 | Holder, Fuse |
| F891 | 23144854 | Fuse, 1.6A, 125V |
| F891A | 23165433 | Holder, Fuse |
| G005 | 23118859 | Diode, 1SS133 |
| G023 | 24327180 | MF, 18 ohm, ±1%, 1/4W |
| G101 | 24872101 | Chip, 100 ohm, 1/16W |
| G102 | 24872101 | Chip, 100 ohm, 1/16W |
| GJ01 | 24000824 | Chip Jumper, 2125Type |
| GJ05 | 24000824 | Chip Jumper, 2125Type |
| GJ06 | 24000824 | Chip Jumper, 2125Type |
| GJ07 | 24000824 | Chip Jumper, 2125Type |
| GJ31 | 24000824 | Chip Jumper, 2125Type |
| GJ32 | 24000824 | Chip Jumper, 2125Type |
| GJ59 | 24000824 | Chip Jumper, 2125Type |
| GJ77 | 24000824 | Chip Jumper, 2125Type |
| GJ701 | 24000824 | Chip Jumper, 2125Type |
| GJ702 | 24000824 | Chip Jumper, 2125Type |
| GJ705 | 24000824 | Chip Jumper, 2125Type |
| GR01 | 24000824 | Chip Jumper, 2125Type (50A60/55A60/61A60) |
| GR02 | 24000824 | Chip Jumper, 2125Type |
| H003 | 23344421 | RF Switch, RSU133X6 |
| H003A | 23740989 | Nut, F-Connector |
| K912A | 23101988 | Battery, LR6G R SP-2A (50A60/55A60/61A60) |
| K912A | 23101998 | Battery, R6KGT SP-2T (50A50) |

| Location No. | Part No. | Description |
|---|---|---|
| KB11 | 23904946 | Remote Sensor, RPM-676CBR-S |
| P002 | 23365089 | F Connector(50A50) |
| P701 | 23367724 | Plug, B-B,15P |
| P702 | 23367724 | Plug, B-B,15P |
| P708 | 23902655 | Socket, B-B, 15P |
| P709 | 23902655 | Socket, B-B, 15P |
| P713 | 23164787 | Plug, 7P |
| P714 | 23164787 | Plug, 7P |
| P715 | 23164787 | Plug, 7P |
| P801 | 23372117 | Power Cord |
| PV02 | 23365819 | Jack, 1S3P |
| PV06 | 23903040 | Socket, 56P |
| PZ01 | 23368130 | Plug, B-B,10P |
| PZ02 | 23902213 | Socket, B-B, 10P |
| S602 | 23145412 | Switch, Slide, 2C2P |
| SA01 | 23145226 | Switch, Push, 1C1P |
| SA02 | 23145226 | Switch, Push, 1C1P |
| SA03 | 23145226 | Switch, Push, 1C1P |
| SA04 | 23145226 | Switch, Push, 1C1P |
| SA05 | 23145226 | Switch, Push, 1C1P |
| SA06 | 23145226 | Switch, Push, 1C1P |
| SA07 | 23145226 | Switch, Push, 1C1P |
| SA08 | 23145226 | Switch, Push, 1C1P |
| SA09 | 23145226 | Switch, Push, 1C1P |
| SR81 | 23146556 | Relay, DC12V |
| UY01 | 23148731 | Module, MKMP33, MULTI PICTURE PNT |
| V901A | 23902019 | Socket, CRT, 9P |
| V902A | 23902019 | Socket, CRT, 9P |
| V903A | 23902019 | Socket, CRT, 9P |
| W661 | 23151232 | Speaker, SPK-1235, 160X160mm, 8 ohm |
| W662 | 23151232 | Speaker, SPK-1235, 160X160mm, 8 ohm |
| X401 | 23153721 | Ceramic Resonator, 503kHz, TCR1023 |
| X501 | 23153961 | Crystal, 3.58MHz |
| XA01 | 23153533 | Ceramic Resonator, 8.00MHz, TCR1082AM |
| Z401 | 24082996 | CR Block, TPA5007BH |
| Z402 | 23140203 | SG-GAP, SG99B3EN |
| Z410 | 23110841 | Coil, Forcus, TPA6030 |
| Z410A | 23505177 | Focus Cable |
| Z450A | 23504953 | Anode Cable |
| Z702 | 23103823 | Filter, TEM2027D |
| Z703 | 23103823 | Filter, TEM2027D |
| Z704 | 23103823 | Filter, TEM2027D |
| Z705 | 23103823 | Filter, TEM2027D |
| Z706 | 23103823 | Filter, TEM2027D |
| Z707 | 23103823 | Filter, TEM2027D |
| Z711 | 23103823 | Filter, TEM2027D |
| Z712 | 23103823 | Filter, TEM2027D |
| ZT01 | 70108925 | Resonator, 4MHz, TCR1071 |

## PC BOARD ASSEMBLIES

| | | |
|---|---|---|
| * E031Z | | CRT-D/R Board, PB9454A1 (50A60/55A60/61A60) |
| * E031Z | | CRT-D/R Board, PB9454B1 (50A50) |
| * E032Z | | CRT-D/G Board, PB9454A2 (50A60/55A60/61A60) |
| * E032Z | | CRT-D/G Board, PB9454B2 (50A50) |
| * E033Z | | CRT-D/B Board, PB9454A3 (50A60/55A60/61A60) |
| * E033Z | | CRT-D/B Board, PB9454B3 (50A50) |
| * E034Z | | FRONT-CON Board, PB9454A4 (50A60/55A60/61A60) |
| * E034Z | | FRONT-CON Board, PB9454B4 (50A50) |
| * E035Z | | FRONT-IN Board, PB9454A5 (50A60/55A60/61A60) |
| * E035Z | | FRONT-IN Board, PB9454B5 (50A50) |
| * E036Z | | SVM Board, PB9454A6 (50A60/55A60/61A60) |
| * E040Z | | REM Board, PB9454A10 (50A60/55A60/61A60) |
| * E040Z | | REM Board, PB9454B10 (50A50) |
| * U701 | 23784738 | DIGI-CONV Board, PB9453A (50A60/50A50) |
| * U701 | 23784777 | DIGI-CONV Board, PB9453B (55A60) |
| * U701 | 23784779 | DIGI-CONV Board, PB9453C (61A60) |
| * U801 | | DEF/Power Board, PB9451A (50A60/55A60/61A60) |
| * U801 | | DEF/Power Board, PB9451B (50A50) |
| * U901 | | Signal/CON Board, PB9450A (50A60) |
| * U901 | | Signal/CON Board, PB9450B (50A50) |
| * U901 | | Signal/CON Board, PB9450C (55A60) |
| * U901 | | Signal/CON Board, PB9450D (61A60) |
| * UV01 | | A/V Board, PB9452A (50A60/55A60/61A60) |
| * UV01 | | A/V Board, PB9452B (50A50) |
| * UZ01 | 23784601 | DIG COM Board, PB9398 |

## PICTURE TUBE

| | | |
|---|---|---|
| ⚠V901R | 23005114 | Protector Coupling 50A R (50A60) |
| ⚠V901R | 23796001 | Projection Tube Ass'y, 50HR (50A50) |
| ⚠V901R | 23005242 | Protector Coupling 55A R (55A60) |
| ⚠V901R | 23005249 | Protector Coupling 61A R (61A60) |
| ⚠V902G | 23005115 | Protector Coupling 50A G (50A60/55A60/61A60) |
| ⚠V902G | 23005397 | Protector Coupling 50A50 G (50A50) |
| ⚠V903B | 23796003 | Projection Tube Ass'y, 50HB (50A60/50A50/55A60) |
| ⚠V903B | 23796486 | Projection Tube Ass'y, 61HB (61A60) |

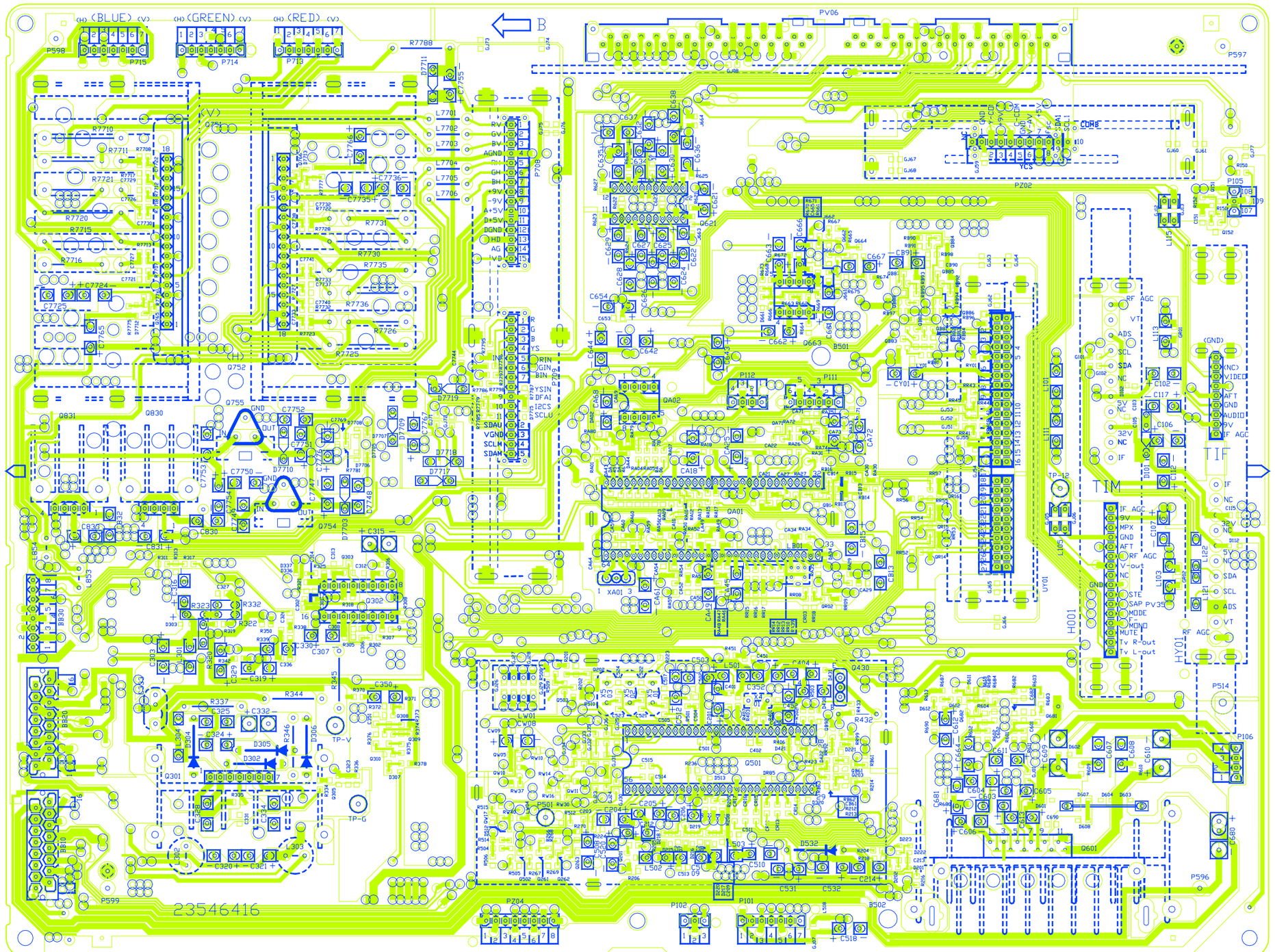
## TUNER

| | | |
|---|---|---|
| H001 | 23321374 | Tuner, EL952LW |
| HY01 | 23321369 | Tuner, EL953L (50A60/55A60/61A60) |

| Location No. | Part No. | Description |
|---|---|---|
| **ACCESSORIES** | | |
| K912 | 23306263 | Remote Hand Unit, CT-9946 (50A60/55A60/61A60) |
| K912 | 23306359 | Remote Hand Unit, CT-90037 (50A50) |
| AT03 | 23588181 | Battery Cover |
| Y101 | 23563913 | Owner's Manual, English, 50A60/55A60/61A60 |
| Y101 | 23563938 | Owner's Manual, English, 50A50 |
| Y101F | 23563914 | Owner's Manual, French, 50A60/55A60/61A60 |
| Y101F | 23563939 | Owner's Manual, French, 50A50 |
| **CABINET PARTS** | | |
| A101 | 23411115 | Wood Cabinet (50A60/50A50) |
| A101 | 23411138 | Wood Cabinet (55A60) |
| A101 | 23411141 | Wood Cabinet (61A60) |
| A102 | 23527067 | Speaker Grille R (50A60/50A50/55A60) |
| A102 | 23527073 | Speaker Grille R (61A60) |
| A103 | 23527068 | Speaker Grille L (50A60/50A50/55A60) |
| A103 | 23527074 | Speaker Grille L (61A60) |
| A126 | 23445281 | Button, Catch Male |
| A127 | 23445281 | Button, Catch Male |
| A150 | 23411114 | Light Box (50A60/50A50) |
| A150 | 23411137 | Light Box (55A60) |
| A150 | 23411140 | Light Box (61A60) |
| A160 | 23469228 | Caster |
| A201 | 23549258 | Bezel (50A60/50A50) |
| A201 | 23549323 | Bezel (55A60) |
| A201 | 23549324 | Bezel (61A60) |
| A202 | 23450257 | Control Panel |
| A213 | 23427652 | Door |
| A268 | 23450101 | Front Panel (50A60/50A50/55A60) |
| A268 | 23450224 | Front Panel (61A60) |
| A322 | 23445282 | Button, Catch Female |
| A401 | 23005351 | Back Cover (50A60/50A50) |
| A401 | 23005229 | Back Cover (55A60) |
| A401 | 23005247 | Back Cover (61A60) |
| A424 | 23540074 | Back Cover (50A60/50A50) |
| A424 | 23540075 | Back Cover (55A60) |
| A424 | 23540076 | Back Cover (61A60) |
| A505 | 72471068 | Screw, BIDT2 4X12BZ |
| A510 | 23030815 | Screw, PTD #6 X 3/4 |
| A518 | 23030815 | Screw, PTD #6 X 3/4 |
| A519 | 23030815 | Screw, PTD #6 X 3/4 |
| A521 | 23030815 | Screw, PTD #6 X 3/4 |
| A533 | 23030815 | Screw, PTD #6 X 3/4 |
| A535 | 23030815 | Screw, PTD #6 X 3/4 |
| A539 | 23030815 | Screw, PTD #6 X 3/4 |
| A541 | 23030815 | Screw, PTD #6 X 3/4 |
| A543 | 72471068 | Screw, BIDT2 4X12BZ |
| A544 | 23030815 | Screw, PTD #6 X 3/4 |
| A701 | 23525844 | Case(50A60/50A50) |
| A701 | 23525845 | Case(55A60) |
| A701 | 23525846 | Case(61A60) |
| A703 | 23935847 | Packing, Top (50A60/50A50) |
| A703 | 23935867 | Packing, Top (55A60) |
| A703 | 23935868 | Packing, Top (61A60) |
| A708 | 23935848 | Packing, Bottom (50A60/50A50) |
| A708 | 23935866 | Packing, Bottom (55A60/61A60) |
| A721 | 23943628 | Cover, Poly |
| K111 | 23430111 | Delta, 77-A/B Assembly (50A60/50A50/55A60) |
| K111 | 23430160 | Delta, 79-A/B Assembly (61A60) |
| K112 | 23430432 | Delta, 78-A/B Assembly (50A60/50A50/55A60/61A60) |
| K113 | 23430111 | Delta, 77-A/B Assembly (50A60/50A50/55A60) |
| K113 | 23430160 | Delta, 79-A/B Assembly (61A60) |
| K501 | 23430783 | Lenti Sheet, SCREEN50KK-L (50A60/50A50) |
| K501 | 23430612 | Lenti Sheet, SCREEN55DJ-L (55A60) |
| K501 | 23837528 | Lenti Sheet, SCREEN61DH-L (61A60) |
| K502 | 23430784 | Fresnel Sheet, SCREEN50KK-F (50A60/50A50) |
| K502 | 23430613 | Fresnel Sheet, SCREEN55DJ-F (55A60) |
| K502 | 23837529 | Fresnel Sheet, SCREEN61DH-F (61A60) |
| K511 | 23430782 | SCREEN50KK (50A60/50A50) |
| K511 | 23430611 | SCREEN55DJ (55A60) |
| K511 | 23837527 | SCREEN61DH (61A60) |
| K601 | 23430313 | Mirror, MIRROR48(E) (50A60/50A50) |
| K601 | 23430529 | Mirror, MIRROR55H (55A60) |
| K601 | 23430528 | Mirror, MIRROR61H (61A60) |

# SIGNAL/CON BOARD PB9450

**BOTTOM (FOIL) SIDE**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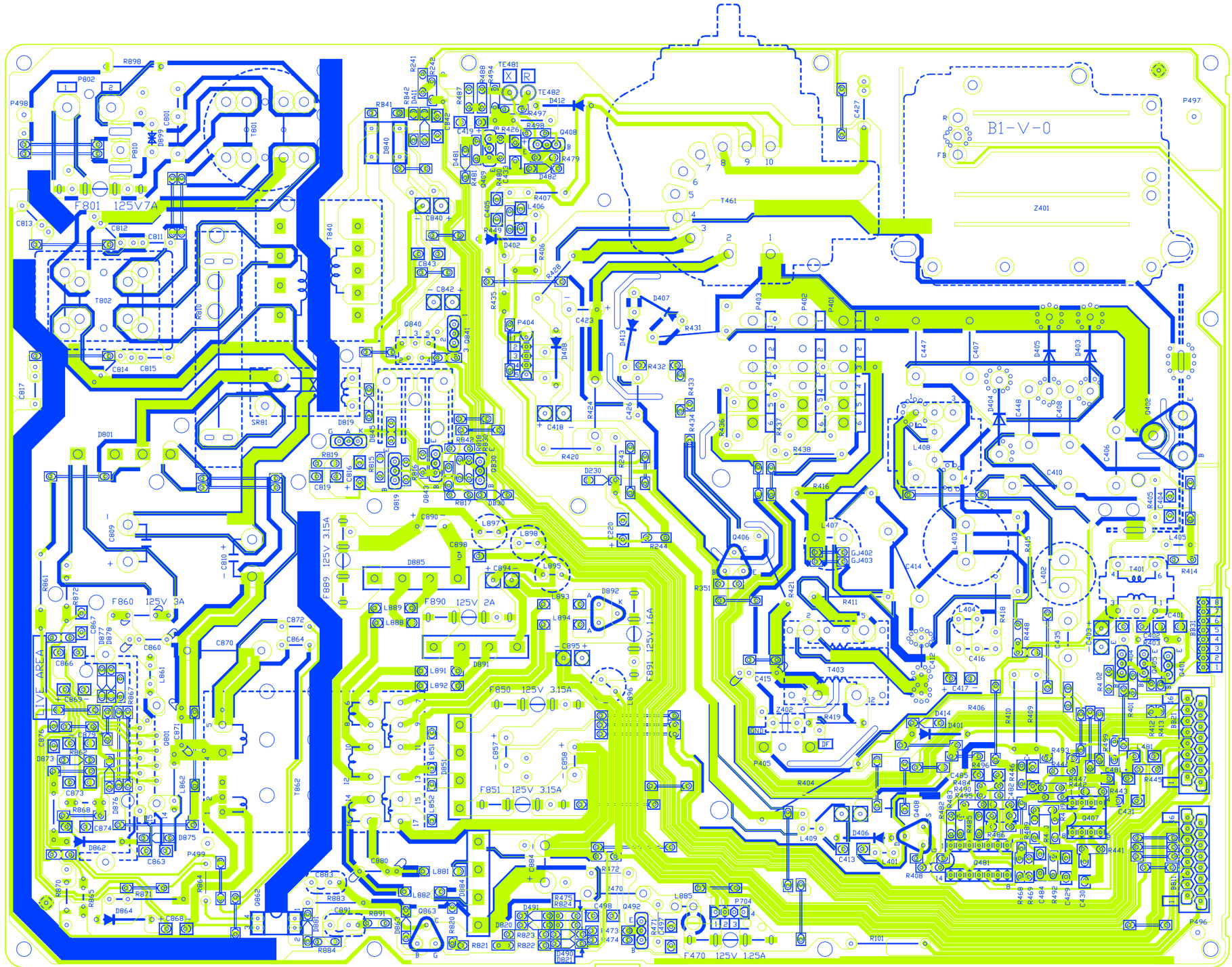
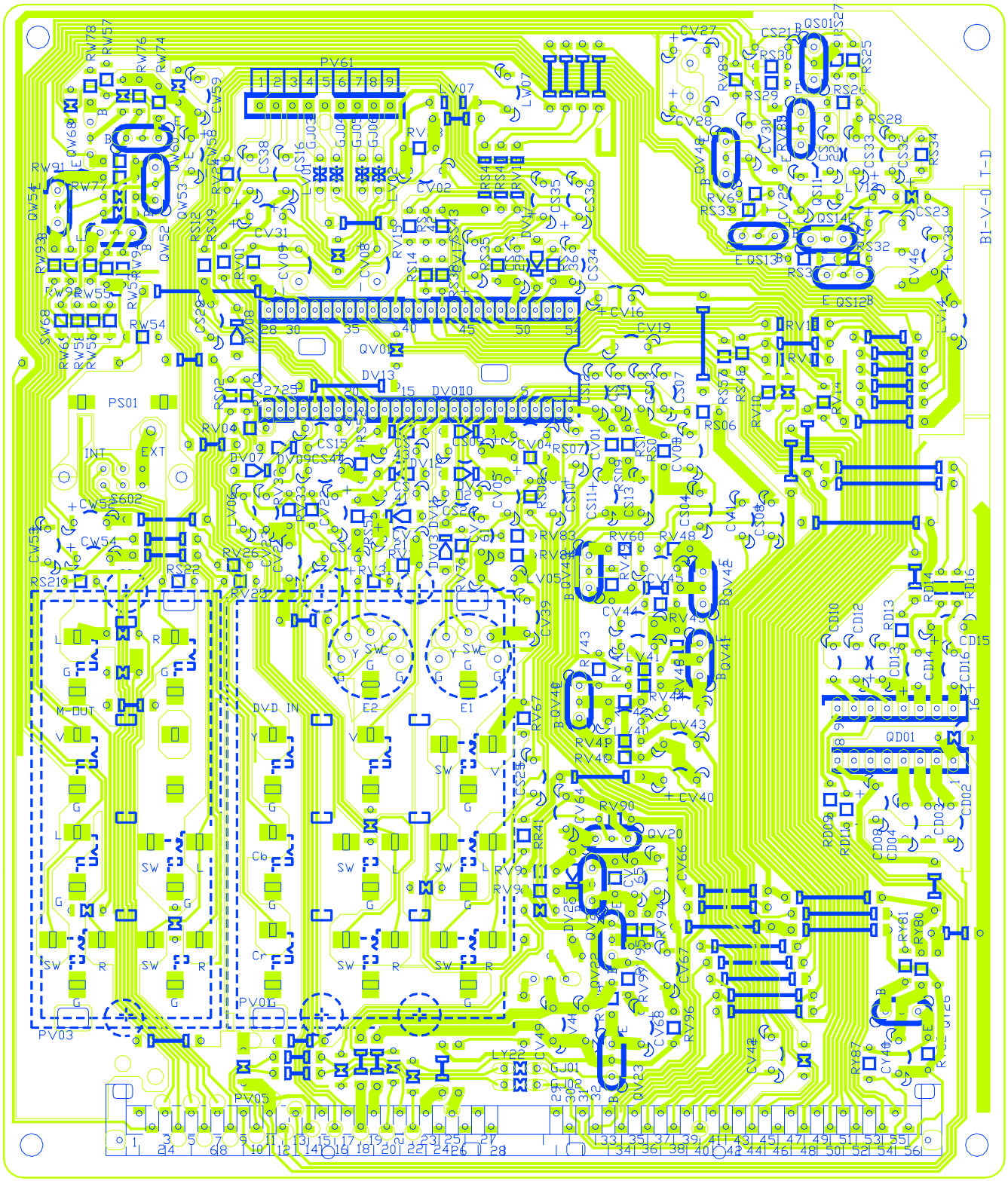
# DEF/POWER BOARD PB9451

## BOTTOM (FOIL) SIDE



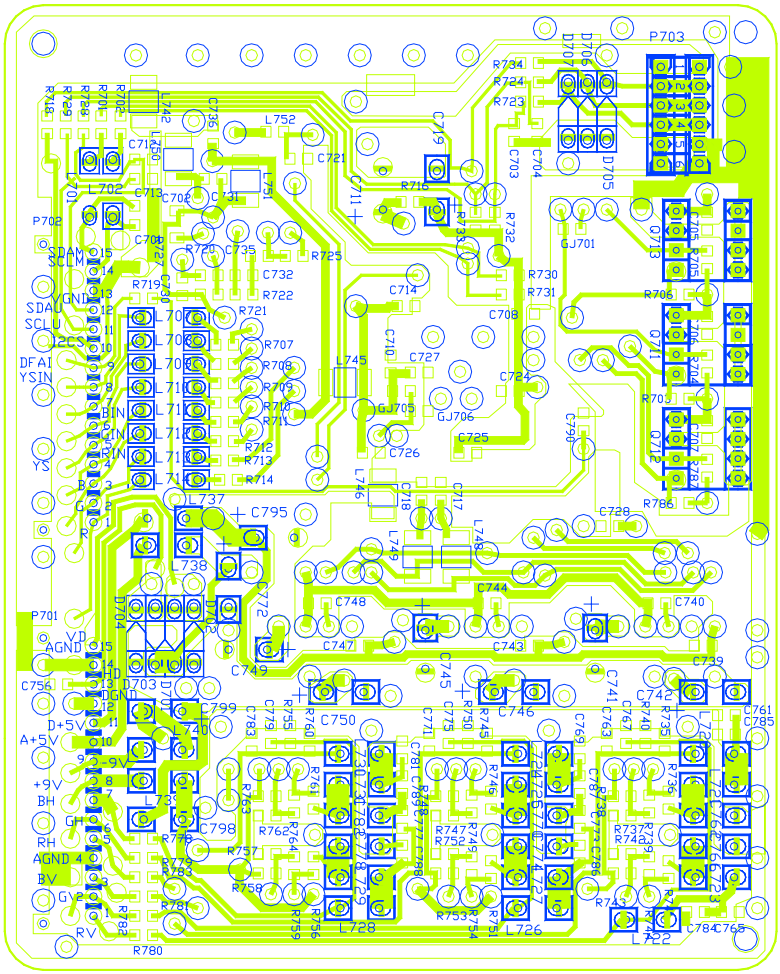
# BACK/AV BOARD PB9452

**BOTTOM (FOIL) SIDE**



# DIGI-CONV BOARD PB9453

**BOTTOM (FOIL) SIDE**



# DIGI-COMB BOARD PB9398

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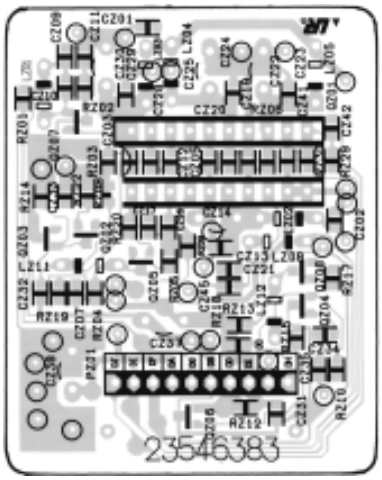

# R-DRIVE BOARD PB9454-1

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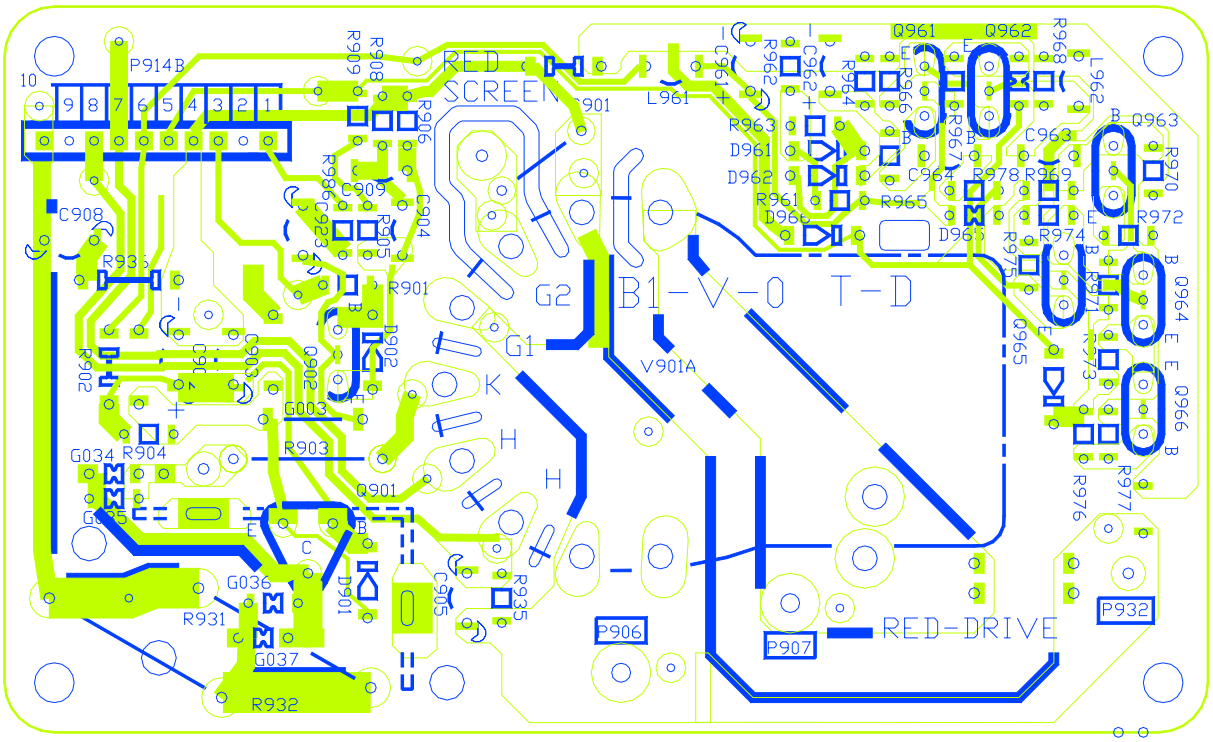


# B-DRIVE BOARD PB9454-3

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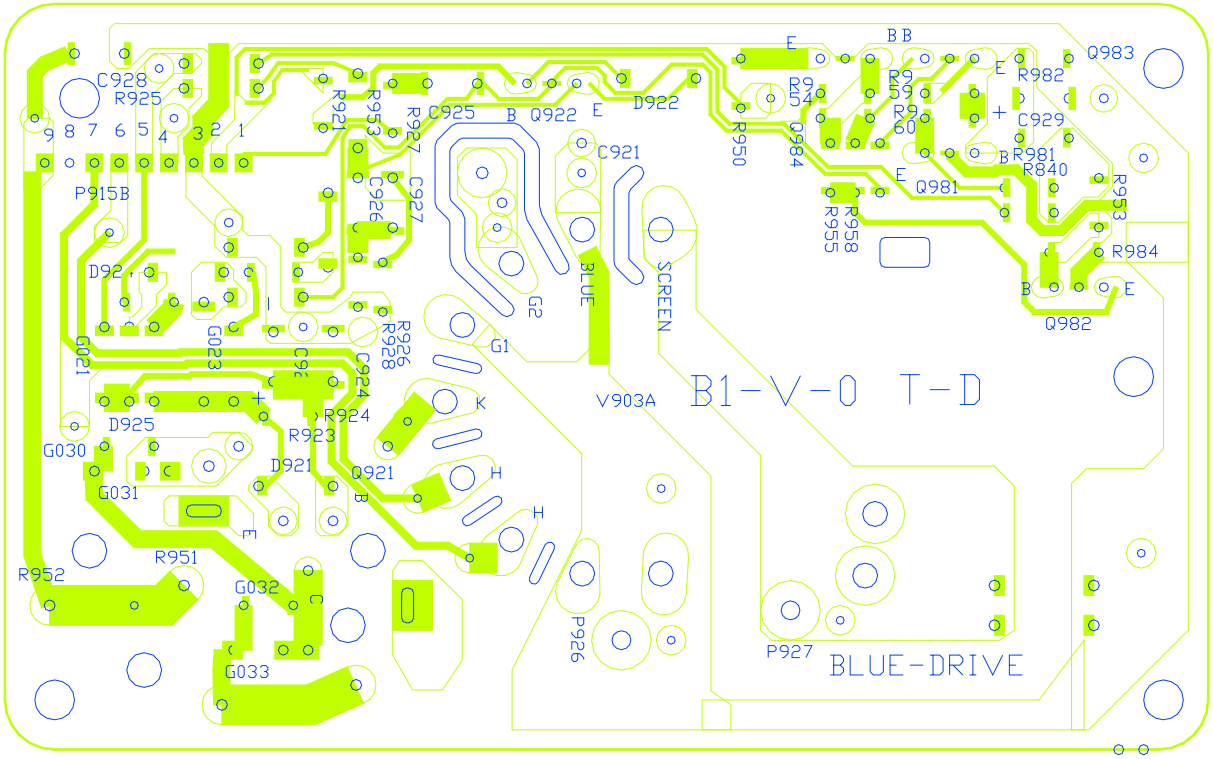

## B-DRIVE BOARD PB9454-2

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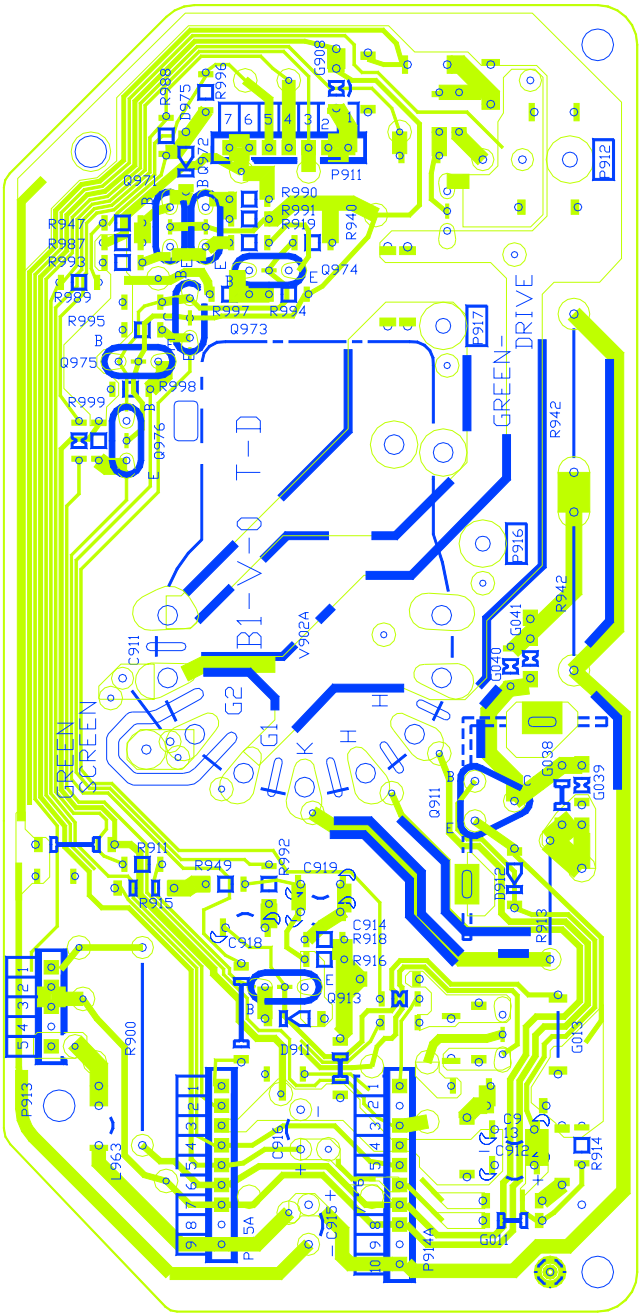
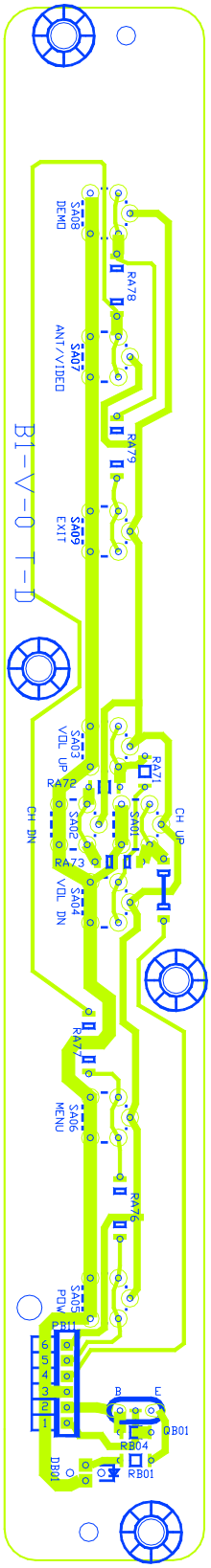



## FRONT-CONT BOARD PB9454-4

**BOTTOM (FOIL) SIDE**



## FRONT-CONV BOARD PB9454-5

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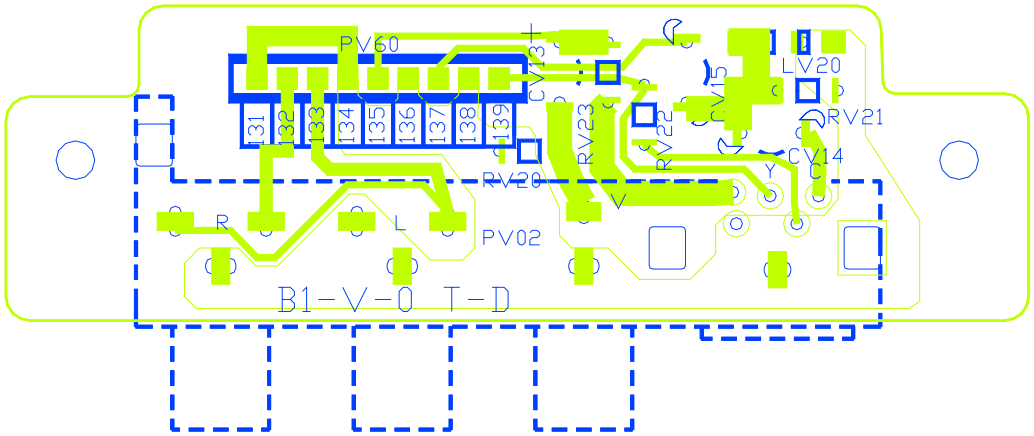
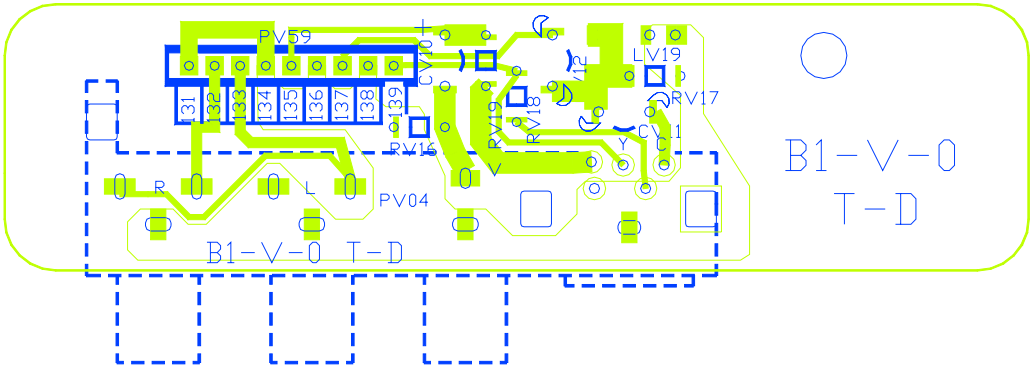


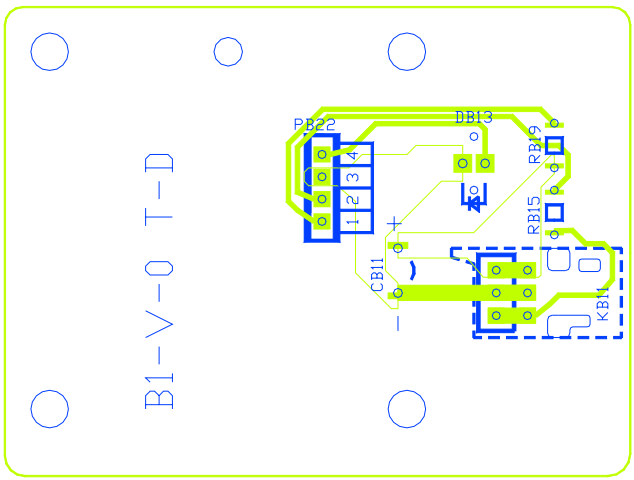

## FRONT-IN BOARD PB9454-9

**BOTTOM (FOIL) SIDE**



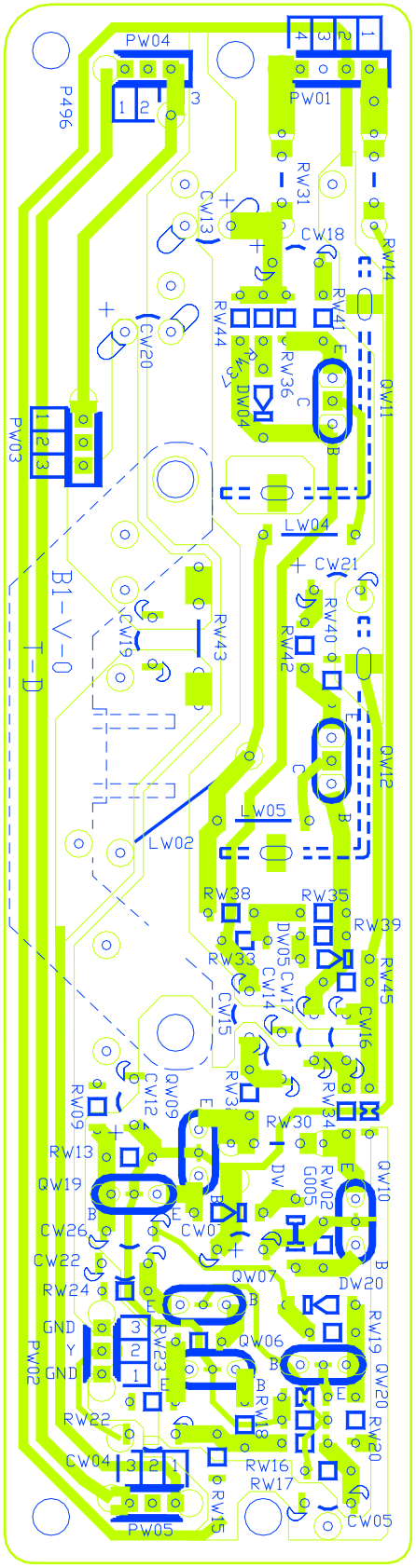

## REM BOARD PB9454-10

**BOTTOM (FOIL) SIDE**



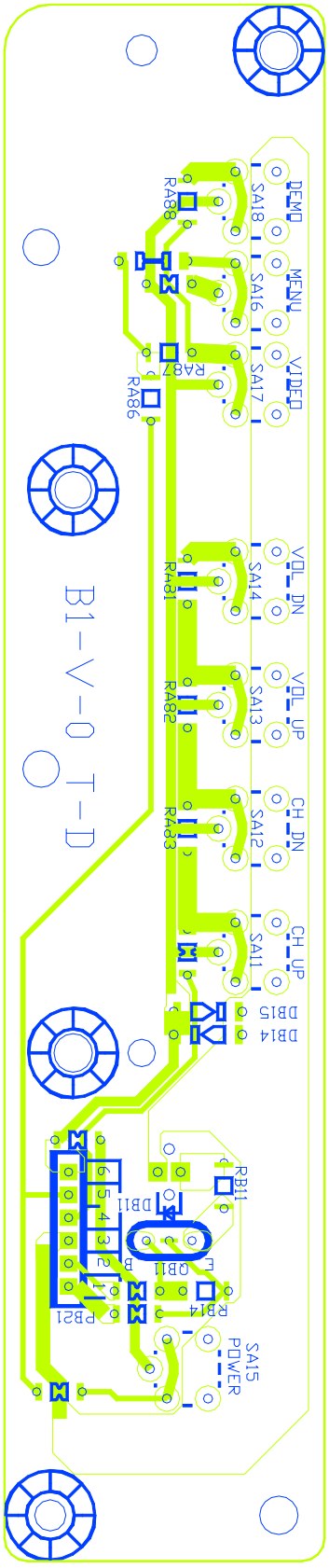
## SVM BOARD PB9454-6

**BOTTOM (FOIL) SIDE**



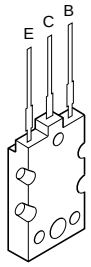

## FRONT-CON BOARD PB9454-8

**BOTTOM (FOIL) SIDE**

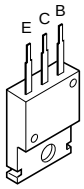


# TERMINAL VIEW OF TRANSISTORS

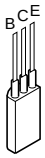
① 2SD2253
(old)
2SC5243



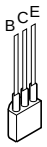

② 2SC3852
2SD1763A
2SC1569
2SC4544
2SA1788
2SA1306
2SA1186A



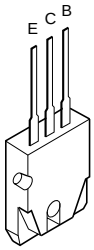

③ 2SC752GTM
2SC2482
2SC2655
2SC4721P



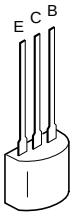

④ 2SC752
2SA562TM
2SA1015
2SC1815
2SC2878
2SC1740S
2SC2120
2SA9335



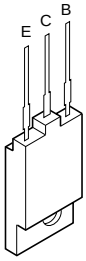

⑤ 2SA1788



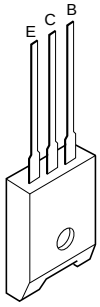

⑥ RN2203
RN2201
RN2004
RN1203
RN1204
RN2204
RN1205
RN1202
RN1201




⑦ 2SD1554
2SD2253
2SD1556
2SD2553
2SC5143




⑧ ON4409



MEMO

## SPECIFICATIONS (Representative: 50A60)

| | |
|---|---|
| TELEVISION SYSTEM | NTSC standard |
| CHANNEL COVERAGE | VHF: 2 through 13<br>UHF: 14 through 69<br>Cable TV: Mid band (A-8 through A-1, A through I)<br>Super band (J through W)<br>Hyper band (AA through ZZ, AAA, BBB)<br>Ultra band (65 through 94, 100 through 125) |
| POWER SOURCE | 120 V AC, 60 Hz |
| POWER CONSUMPTION | 137W |
| AUDIO POWER | 14 W + 14 W |
| SPEAKER TYPE | Two 6-1/4 inches (16 cm) round |
| VIDEO/AUDIO TERMINALS | S-VIDEO INPUT<br>Y-INPUT: 1V (p-p), 75 ohm, negative sync.<br>C-INPUT: 0.286 V(p-p) (burst signal), 75 ohm<br>VIDEO/AUDIO INPUT<br>VIDEO: 1 V(p-p), 75 ohm, negative sync.<br>AUDIO: 150 mV(rms) (30% modulation equivalent, 47 kohm)<br>ColorStream™ (Color Difference) VIDEO, AUDIO INPUT<br>Y-INPUT: 1 V(p-p), 75 ohm<br>Cr-INPUT: 0.7 V(p-p), 75 ohm<br>Cb-INPUT: 0.7 V(p-p), 75 ohm<br>AUDIO: 150mV(rms). 47 kohm<br>VIDEO/AUDIO OUTPUT<br>VIDEO: 1 V(p-p), 75 ohm, negative sync.<br>AUDIO: 150 mV(rms) (30% modulation equivalent, 4.7 kohm)<br>VARIABLE AUDIO OUTPUT<br>0-300 mV(rms) (30% modulation equivalent, 4.7 kohm)<br>AUDIO CENTER CHANNEL INPUT<br>300 mV(rms) (30% modulation equivalent, 10 kohm) |
| DIMENSIONS/MASS | |

| | Dimension (W/H/D) | Mass |
|---|---|---|
| 50A60 | 42-1/4 x 50-5/8 x 20-13/16 inches<br>(1,073 x 1,284 x 529 mm) | 217 lbs<br>(98.6 kg) |

| | |
|---|---|
| SUPPLIED ACCESSORIES | Remote Control with 2 size “AA” alkaline batteries |

*Please refer to owner's manual in detail.

**TOSHIBA CORPORATION**
1-1, SHIBAURA 1-CHOME, MINATO-KU, TOKYO 105-8001, JAPAN